



# INDIAN MINES ACT, 1923

## ANNUAL REPORT

OF THE

# CHIEF INSPECTOR OF MINES IN INDIA

FOR THE YEAR ENDING

31st DECEMBER 1927



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FROM

R. R. SIMPSON, Esq., M.Sc.,

CHIEF INSPECTOR OF MINES IN INDIA.

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,

DEPARTMENT OF INDUSTRIES AND LABOUR,

SIMLA.

*Dated Dhanbad, the 26th May 1928.*

SIR,

I have the honour to submit the report upon the inspection of mines in British India for the year ending 31st December 1927.

### INTRODUCTION.

The Indian Mines Act, 1923, applies to British India only and not to the Indian States. For the complete figures of production of all minerals raised from excavations of all depths in British India and the Indian States reference may be made to the statements of the "Mineral Production of India" published annually in the Records of the Geological Survey of India, and to the "Quinquennial Review of the Mineral Production of India" published every five years by the same Department. Detailed information of the mineral industries in Mysore—where the Kolar goldfield is situated—and Hyderabad (Nizam's Dominions) is given in the annual reports of the Chief Inspectors of Mines in those States.

### Section I.—Persons Employed.

During the year 1927 the daily average number of persons working in and about the mines regulated by the Indian Mines Act was 269,290, as compared with 260,113 in the previous year. This is an increase of 9,177 persons or 3.53 per cent. Of these persons 118,616 worked underground, 77,725 in open workings and 72,949 on the surface. The distribution in respect of sex was as follows:—

	Males.	Females.
Underground . . . . .	86,760	31,850
In open workings . . . . .	50,028	27,697
Surface . . . . .	53,903	19,046
TOTAL . . . . .	<u>190,697</u>	<u>78,593</u>

The provincial distribution of the females who worked underground was—

Province.	Mineral worked.								Total.
	Coal.	Mica.	Salt.	Mang- anese.	China clay.	Steat- ite.	Fire- clay.	Ochre.	
Assam . . . . .	84	...	...	...	...	...	...	...	84
Burma . . . . .	...	...	...	...	...	...	...	...	...
Bengal . . . . .	8,302	...	...	...	...	...	...	...	8,302
Bihar and Orissa . . . . .	16,613	1,852	...	...	17	83	5	...	20,550
Central Provinces . . . . .	1,042	...	...	198	...	12	...	21	1,268
Madras . . . . .	...	1,191	...	...	...	...	...	...	1,191
Punjab . . . . .	...	...	436	...	...	...	...	...	436
Ajmer-Merwara . . . . .	...	27	...	...	...	...	...	...	27
Delhi . . . . .	...	...	...	...	2	...	...	...	2
United Provinces . . . . .	...	...	...	...	...	...	...	20	20
Total	28,041	3,070	436	198	19	45	5	41	31,850 females employed under- ground.

The number of persons employed in coal mines was 165,213, which is 5,415 less than the number employed in 1926. Of these persons 41,786 were coal-cutters, 9,960 were male loaders and 33,841 were females—chiefly loaders.

The number of persons employed in metalliferous (including mica, stone, clay and salt) mines was 104,077, which is 14,592 more than the number employed in 1926. 72,927 were males and 31,150 were females. Of these females only 3,809 worked underground.

In the coalfields of Bengal and Bihar and Orissa labour has been plentiful for several years, and at the present time it is in excess of requirements. In view of the perennial shortage in earlier years managers have been reluctant to turn away applicants for employment, and the result is that at present the mines are over-manned. The number of workers is perhaps not in excess of the number of working places, but it is in excess of the transport arrangements even at the best equipped mines. The miner lacks confidence in the transport arrangements and will not commence work until an empty coal tub has been allotted to him. A great deal of his time underground is spent in sitting down waiting for tubs. Until such time as transport has been improved managers would be well advised to admit fewer workers into the mines. To do so would not cause loss of output, but would lead to a considerable reduction in the number of hours spent underground, which is often not less than twelve hours per shift.

Wages at coal mines in Bengal and Bihar and Orissa remained at about the same level with a tendency to fall, particularly at the smaller collieries working poorer grades of coal where there is now no margin of profit. There was no epidemic disease, and the death-rate in the Asansol and Jharia Mining Settlements was no more than 16·7 per thousand.

At the collieries in Upper Assam owned by the Assam Railways and Trading Company, Limited, the total number of persons employed was 5,293 and during the year 557 workers were recruited and 887 were repatriated. Wages remained at the same level, and there were no strikes or epidemics.

In the Central Provinces the supply of mining labour was adequate. In the Pench Valley coalfield there was a reduction of the rates for piece work which did not necessarily reduce the workers' earnings but induced greater regularity of attendance. The alterations of conditions of work and payment led to local strikes of short duration. At some of the larger manganese mines the housing of the labourers has been improved and facilities for sports have been introduced.

At the lead-silver, iron and limestone mines worked by the Burma Corporation Limited in the Northern Shan States, Burma, labour conditions were maintained and showed a general improvement. In all departments of the Company's activities 16,501 persons were employed. There were no outbreaks of epidemic disease.

At the mica mines in Bihar and Orissa labour was plentiful, and in the Madras mines sufficient. Wages remained about the same. In the Madras mica field considerable damage was caused by a cyclone which occurred in November. Thirteen mine workers lost their lives and many buildings were destroyed. There was moreover an outbreak of cholera.

At the iron ore mines in the Singhbhum district of Bihar and Orissa labour was sufficient for requirements, and the relations between employers and workers continued to be satisfactory. There was no change in the rates of wages. Two new pumping plants for water-supply were erected, and progress in the improvement of housing accommodation was continued. The health of the mining camps showed improvement. At the new mine at Noamundi the labour settlement is well situated on the slope of a hill, and conveniently reached by a good road. A plentiful supply of water is piped from a dam about 1½ miles distant where filter beds are being constructed. Malaria is decreasing owing to the cutting down of the jungle undergrowth in the vicinity.

In his annual report on the working of the Indian Mines Act in the Jhelum district, Punjab, the District Magistrate states that "the relations between the labour and employers were not harmonious throughout the year under report. The hereditary miners of Khewra have had considerable grievance against the Salt department, and as a result thereof a conference was held at Simla in July 1927 to consider means to remove them as far as possible. The proprietors of the various coal mines in the district are not satisfied with the privileges enjoyed by the miners under the Workmen's Compensation Act. As reported last year, some of them had to pay as compensation on a single accident more than they could earn during a month in the present state of the business. \* \* \* \* \* The employers are apparently not content with the manner in which they are being harassed by their employees even for trivial injuries".

A large number of ticket-of-leave prisoners were employed at the Public Works Department's stone quarries in Burma, and in the Belgaum district, Bombay, some of the labour employed in the manganese mines was supplied by the Criminal Tribes Settlement.

The labour difficulties experienced at mines in remote situations on the frontiers of Burma are well illustrated by the following extract from the report on the working of the Indian Mines Act during the year 1927 made by a frontier officer:

"There was no outstanding crime committed in the mining camp or by its inhabitants. Gambling is prevalent and the camp is a refuge for many bad characters and absconders owing to its inaccessibility. If the police raid the mining camp the greater part of the labour is dispersed at once for several days and only with difficulty enticed back again to work. The labour there has a certain shyness about being identified."

Figures showing the average output of coal per person employed are given below:—

	Tons of coal per person employed.			
	Underground and in open workings.		Above and below ground.	
	1927.	1922-26.	1927.	1922-26.
British India . . . . .	185	174	128	108
Bengal and Bihar . . . . .	190	181	131	118
Assam . . . . .	113	128	80	79
Baluchistan . . . . .	49	55	36	32
Central Provinces . . . . .	146	106	102	66
Punjab . . . . .	90	79	50	46

The improvement in the average may perhaps be ascribed to the greater use of coal-cutting machinery. At Jamadoba colliery in the Jharia coalfield where the coal is cut by machines and hauled underground by electric locomotives the output per person employed was double the average figure for Bihar and Orissa and Bengal. In comparing the figures in the tables with similar figures in other countries it should be remembered that both men and women are employed in Indian mines. In 1925 the output of coal per person employed above and below ground was 122 tons in Japan, 221 tons in Great Britain and 777 tons in the United States of America. In 1924 the corresponding figure in the Transvaal was 402 tons and in Natal 220 tons.

In the table on page 5 figures are given of the wages paid in December in each important mining field in India. It will be noticed that the lowest wages are paid in mica mines in Madras and Bihar and Orissa, and that the wages paid to coal miners in Bengal and Bihar and Orissa compare unfavourably with those paid to coal miners in Assam and the

*Daily earnings in each important mining field in British India.*

Mining Field.	Underground.					Open workings.					Surface.					
	Overmen and Sirdars — Foremen and Mates.	Miners.	Loaders.	Skilled Labour.	Un-skilled Labour.	Females.	Overmen and Sirdars — Foremen and Mates.	Miners.	Loaders.	Skilled Labour.	Un-skilled Labour.	Females.	Clerical and Supervising staff.	Skilled Labour.	Un-skilled Labour.	Females.
Jharia Coalfield (Bihar and Orissa)	1 4 9	0 14 8	0 10 9	0 11 9	0 9 9	0 8 9	1 1 6	0 14 9	0 7 9	0 12 8	0 9 9	0 8 6	1 5 6	0 12 8	0 9 8	0 7 6
Baniganj (Bengal)	1 1 0	0 12 8	0 11 0	0 12 9	0 9 8	0 7 8	1 1 0	0 13 8	0 10 0	0 12 0	0 8 8	0 7 0	1 2 6	0 11 9	0 8 0	0 8 0
Girdih (Bihar and Orissa)	1 0 0	0 13 8	0 11 9	0 14 6	0 8 0	0 5 8	1 4 6	0 13 6	0 11 8	0 14 8	0 8 6	0 6 0	1 6 0	1 0 0	0 8 0	0 5 9
Assam	1 8 0	1 7 6	1 8 6	1 8 6	0 15 8	0 13 9	1 2 0	1 4 8	1 8 8	1 7 8	1 1 0	1 8 9	1 7 0	1 9 8	0 15 0	0 7 9
Punjab	1 1 6	0 18 8	0 15 6	0 14 0	0 9 9	...	1 0 6	1 8 0	...	...	...	...	1 0 6	0 10 9	0 8 6	0 7 3 4.
Baluchistan	1 7 9	0 12 8	0 13 6	0 12 9	1 2 0	...	...	...	...	...	...	...	...	1 0 0	1 8 0	...
Ponoh Valley (Central Provinces)	1 5 0	1 1 9	0 8 8	0 8 8	0 7 8	0 7 6	...	...	...	...	...	...	1 5 8	0 9 9	0 12 6	0 5 6
Bihar and Orissa Mica	0 11 6	0 6 9	...	0 7 9	0 5 8	0 8 9	0 7 9	0 5 9	...	0 5 9	0 5 9	0 3 8	0 15 6	0 8 8	0 6 8	0 8 9
Madras Mica	0 10 0	0 7 8	...	0 6 6	0 4 9	0 8 6	0 9 0	0 6 0	...	0 6 8	0 4 6	0 3 8	0 12 9	0 8 8	0 4 0	0 8 8
Central Provinces Manganese	1 1 0	0 14 0	...	1 0 0	0 8 0	0 7 3	0 14 0	0 9 0	...	0 15 0	0 6 9	0 5 8	1 3 9	1 3 8	0 8 9	0 5 0
Madras Manganese	...	...	...	...	...	...	0 11 0	0 6 6	...	0 10 0	0 4 9	0 4 8	1 5 8	0 9 6	0 4 9	0 4 8
Central Provinces Limestone	...	...	...	...	...	...	0 14 8	0 7 6	...	0 14 0	0 7 9	0 4 9	0 14 9	0 9 6	0 8 9	0 4 6
Bihar and Orissa Iron	...	...	...	...	...	...	1 8 8	0 6 8	...	0 18 9	0 6 9	0 5 9	2 6 0	0 15 8	0 6 0	0 5 6
Barma Lead	14 14 8	1 11 9	...	2 0 0	1 6 6	...	5 0 6	...	...	3 8 0	1 7 8	...	2 7 0	4 0 0	1 1 8	0 8 0
Barma Tin	4 14 9	1 15 8	...	1 0 9	1 8 9	...	2 12 6	1 8 8	...	1 15 6	1 9 9	0 11 8	2 9 9	2 0 9	1 8 8	...
Punjab Salt	8 12 6	1 1 9	...	1 2 8	0 9 0	1 0 0	8 1 8	1 0 9	...	...	...	...	0 12 0	1 8 0	0 11 0	...
Bihar and Orissa China Clay	0 12 0	0 7 0	...	...	0 6 0	0 4 8	0 12 0	0 4 9	...	...	0 14 8	0 8 6	0 14 8	0 9 9	0 8 0	0 3 8
Punjab Slate	...	0 7 0	...	0 6 8	0 2 6	...	0 9 6	0 9 9	...	0 5 9	0 5 6	...	1 6 8	0 4 8	0 7 8	...
United Provinces Stone	...	...	...	...	...	...	1 0 0	0 7 8	...	...	0 8 0	0 4 6	1 0 0	1 0 0	0 8 0	0 5 9

Central Provinces, and still more unfavourably with the wages paid to persons employed in lead and tin mines. They are very much less than the wages paid in South Africa. The average earnings of African labourers employed in Witwatersrand gold mines is 2s. 3d. per shift, and in addition they are provided with free quarters and food estimated to cost 11½d. per shift worked.

The thoroughness of the organization of labour at the Burma Corporation's Bawdwin lead-silver mine is in striking contrast to the haphazard organization usual at coal mines. Sixty per cent. of the labour force consists of Indians and Nepalis and 40 per cent. of Chinese and Shans. No recruiting is necessary. Applicants for employment are medically examined and their clothes are fumigated. If passed by the medical officer they are duly registered. Every employee is given a registration card on which his thumb impression has been taken. His number, identification marks and nominal rate of pay are entered on the card. A duplicate card is retained by the Company. A record of his attendance is stamped on the card daily immediately before he enters the mine, and his attendance is also checked underground. The method of calculating wages is ingenious. At the end of the month the working place is measured up and the amount due calculated according to a written agreement on the basis of a definite price per unit measurement. The difference between this sum and the amount earned as calculated by the nominal rates of pay is regarded as a bonus, of which the leader of the gang is given 10 per cent. and the remainder is divided up amongst the members of the gang (including the leader) on a basis proportionate to their nominal rates of pay. Every man is paid individually. The nominal rate of pay is Re. 1-4 for beginners rising by four-anna increments to Rs. 2 as experience is gained. The labour force is a constantly changing one. The workers periodically visit their distant homes. A man returning for re-employment is required to produce his registration card. His record is looked up and if it is found to be satisfactory he is re-engaged on a nominal rate of pay only one stage lower than the stage to which he had attained when he went away.

During the year the question of female labour in mines was again under discussion and advanced a further stage. Draft proposals were put forward for a gradual reduction of the employment of women underground in the coal and salt mines, leading to elimination at the end of a period of seven years. By the representatives of the larger coal mines the proposals were accepted, but without enthusiasm and with the suggestion that the period within which the gradual reduction is to be effected may be extended. The owners of the smaller coal mines persisted in their attitude of strong disapproval. The objections urged in former years were again set forth, but in stronger terms. It is said that men will not work in mines and leave their wives at home, but the fact that large numbers of them are doing so already is ignored. A similar argument was used when it was first proposed to prohibit the employment of children in mines. Prohibition of child labour has, however, had no effect on the attendance of women. It is said that men will not carry loads, although from the annual returns it appears that 9,960 men were so employed in Indian coal mines during the year 1927. The number is actually greater, as many men who both cut and carry coal are entered in the registers as coal miners; at certain large mines there are more men than women carrying coal. It is said that there



are not enough men to take the place of the women, but there has been a surplus of coal mining labour in the major coalfields for some years, and at the present time the mines are over-manned, and there is reason to believe that the present output of coal could be obtained with a reduction of one quarter of the labour force. It is contended that work in coal mines is healthful and easy, but the writer is unable to agree that the work which women are seen to be performing in the photographs (Plates 1, 2 and 3) reproduced in these pages is suitable for women. The four women shown in one of the illustrations work in a mine in which the humidity is 97 per cent. The air in the mine is practically saturated, and at the time when the measurement was made the air on surface was very dry (humidity 20 per cent.). The mere effort of walking about the mine is sufficient to cause so profuse perspiration that clothing becomes saturated within a short space of time. The main opposition to the prohibition of female labour in mines is, however, based on economic grounds. Female labour is cheaper than male labour, and women are docile and work with greater regularity than men. It is feared that without female labour the cost of production will increase. Were the change to be introduced at once there would probably be a temporary increase in cost, but if, as proposed, it is introduced gradually the increased efficiency of the men which may be expected to follow the elimination of women, the introduction of regular shifts and the greater use of labour-saving appliances will minimise and may possibly overbalance such increase. In the Transvaal from whence comes the greater part of the coal produced in South Africa, the average value of the coal at pit's mouth was in 1926 Rs. 3-12-0 per ton, as compared with Rs. 4-10-0 and Rs. 5-4-0 in Bihar and Oriassa and Bengal, respectively, in the same year. The mining conditions are similar, and the lower cost in the Transvaal is not improbably to some considerable extent due to the greater efficiency obtainable when women are not employed.

The following is a quotation from the report on the working of the Indian Mines Act made by the Deputy Commissioner, Chhindwara, Central Provinces:

"The problem of controlling, and still more of reducing, the consumption of liquor by mine labour presents peculiar difficulties. The arduous nature of the work and the conditions in which it is performed make men specially prone to drink liquor. It has been suggested that another cause is the employment of women. The workman on return to his home wants food and finds that his wife has not yet had time to prepare it. He accordingly goes to the liquor shop for a drink whilst he is waiting \* \* \* \* \*. The prohibition of women labour and the provision of more amenities will in time reduce consumption."

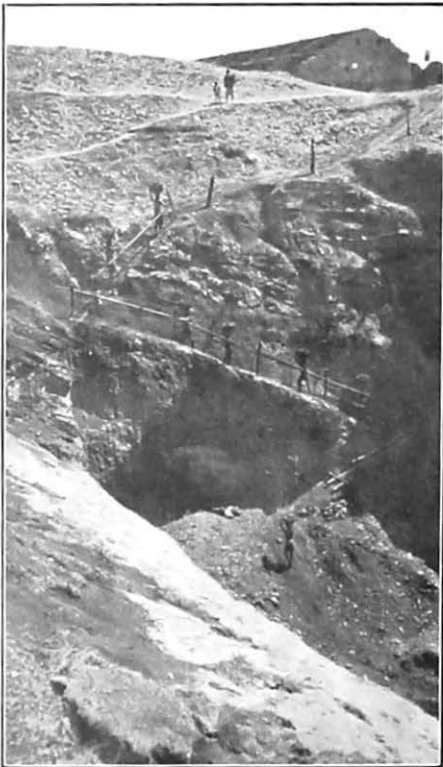
Since the prohibition of child labour in Indian mines the number of schools in the neighbourhood of mines has been increased, but generally speaking facilities for education are poor in the vicinity of mines. In his annual report the District Magistrate, Panch Mahals, says: "the operation of the Mines Act prohibits employment of children on any kind of work in the mines and so the compound is overrun with children who are thus a constant trouble to their parents and to those controlling the camp. It would be better if they were at school \* \* \* \* \*". The outstanding exception in respect of defective educational facilities is the Giridih coalfield where for many years past the workers' children have

been compelled to attend primary schools, from which the more promising pupils have had the opportunity of advanced instruction leading up to the Company's industrial school and workshops. In the Jharia coal-field area with a population of 376,000 persons (including 138,000 rural inhabitants) there are 99 schools, of which 16 are colliery schools with an aggregate number of 617 pupils. The attendance of miners' children at schools other than colliery schools is negligible.

In a recent report on hookworm infection in India published by Dr. Chandler of the Calcutta School of Tropical Medicine it is stated that "coal miners are also especially exposed to infection from soil pollution in the underground galleries. The wearing of footgear of any type protects very remarkably against infection". The suggestion that it would pay mine-owners to provide workmen with boots as a protection against hookworm infection and injuries to the feet was made on page 14 of my annual report for the year 1924. That the protection so given is valued is shown by the fact that at mines where wages rise above the level of mere subsistence many of the workers wear boots.



WOMEN PUSHING COAL TUBS.



WOMEN CARRYING COAL OUT OF QUARRIES.



**WOMEN WORKERS LEAVING A WET COAL MINE WITH SOAKED  
GARMENTS CLINGING TO THE SKIN.**



A WOMAN EMERGING FROM AN INCLINE. THE THICKNESS OF THE SEAM IS 4 FEET 6 INCHES, AND THE HEIGHT OF THE UNDERGROUND ROADS RARELY EXCEEDS THIS FIGURE. THE GRADIENT IS 1 IN 12. THE DISTANCE OVER WHICH THE COAL HAS TO BE CARRIED VARIES FROM 150 TO 250 FEET OF UNDERGROUND ROADWAY. THE WEIGHT OF COAL CARRIED IN THE BASKET IS ABOUT 60 LBS.



WOMEN WORKERS COMING TO THE SURFACE AFTER EMERGING FROM THE INCLINE SHOWN ABOVE. FROM THE INCLINE MOUTH THE COAL IS CARRIED UP A GRADIENT OF ABOUT 1 IN 2, FOR A DISTANCE OF 50 FEET. THE WOMEN ARE SEEN COMING UP THIS SLOPE.

## Section II.—Output of Minerals.

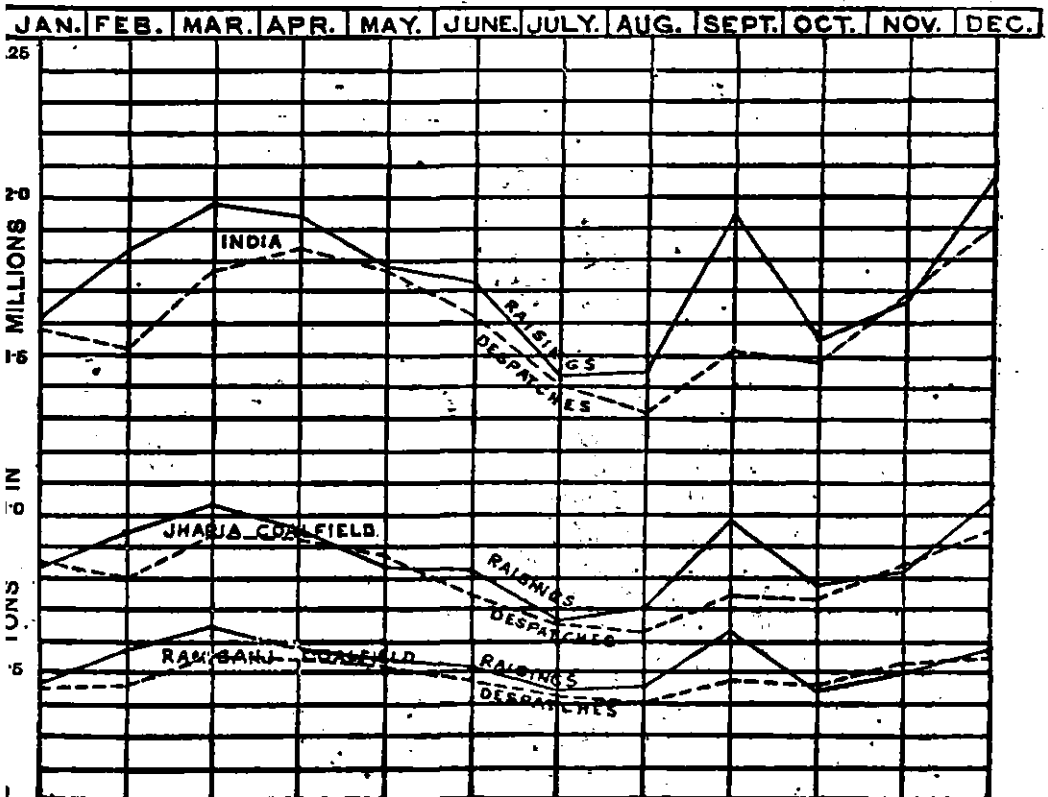
## COAL.

The statement given below shows the output of coal in the various provinces in British India during the years 1926 and 1927:—

	Output in tons.	
	1927.	1926.
Assam	322,517	300,506
Baluchistan	8,945	9,131
Bengal	5,554, 80	5,137,888
Bihar and Orissa	14,493,082	13,942,404
Central Provinces	666,758	655,262
Punjab	62,704	66,043
	<b>21,108,976</b>	<b>20,093,024</b>

The total output in 1927 was 21,108,976 tons of a declared value of Rs. 9,00,68,624. The increase in the output is 1,015,952 tons or 5.06 per cent. more than in the previous year, and a figure which has only been exceeded in 1919 when the record output of 21½ million tons was produced. The opening stocks in 1927 were 2,161,806 tons and the closing stocks 1,778,930 tons—a reduction of nearly half a million tons on the closing stocks of the previous year, and of nearly a million tons on the closing stocks at the end of 1925. In the chart inserted below the raisings and despatches of coal are shown month by month.

## RAISINGS &amp; DESPATCHES OF COAL MONTH BY MONTH IN 1927.



The maximum output was obtained in March and the minimum in July. In only one month—November—did the despatches exceed the raisings, and then only by a very small amount.

The total despatches of coal were 19,078,589 tons, and 1,466,743 tons, or 6·95 per cent. of the raisings, were consumed on the collieries. The proportion of coal used on the collieries has steadily decreased from a maximum of 14·31 per cent. in 1922. The present figure is the lowest recorded and 1·20 per cent. less than in the previous year. The reduction of consumption at the mines is due to the fact that the greater part of the output is now being obtained from mines at which the power consumed is generated in large power stations where coal is consumed to better advantage than in the vertical boilers which at one time were so prominent a feature of the landscape in the coalfields.

The quantity of coal used for coking at the collieries was 946,520 tons, and 608,612 tons of soft coke and 42,445 tons of hard coke were made. The quantity of soft coke manufactured at the collieries for domestic consumption increased by 18 per cent.; the increase in 1926 was 24 per cent. The quantity of hard coke made at the collieries is small. Most of the hard coke is now made at coke-making plants which do not come under the Mines Act, and 1,294,986 tons of coal were despatched to coke-making plants of this kind in 1927. Analyses of the figures relating to the output of coal and the manufacture of coke will be found in Appendix I, Table No. 3, pages 89-92.

The output in Bihar and Orissa increased by 550,658 tons, and in Bengal the increase was 417,302 tons. There were small increases in the Central Provinces and Assam and small decreases in the Punjab and Baluchistan. Figures of output for the principal coalfields are as follows:—

Coalfield.	Output in tons.		Percentage of increase + or decrease —.
	1927.	1926.	
Jharia . . . . .	10,583,487	10,373,736	+2·02
Raniganj . . . . .	6,472,036	6,124,834	+5·67
Bokaro . . . . .	1,790,594	1,514,918	+18·20
Giridih . . . . .	855,253	818,681	+4·47
Karangpura . . . . .	262,014	123,867	+111·68
Pench Valley . . . . .	505,918	416,708	+21·41
Assam . . . . .	322,517	300,508	+7·32

It will be noticed that, as in the previous year, the output of the Raniganj coalfield increased at a greater rate than that of the Jharia coalfield. There was a remarkable increase in the outputs of individual collieries. At Jamadoba colliery in the Jharia coalfield 52,599 tons of coal were raised in the month of December. The increases of outputs have brought about remarkable reductions in the cost per ton of coal produced.

There was a still further decline in the price of coal. The poorer grades became almost unsaleable except in the form of soft coke, and many more mines were compelled to cease production. The number of coal mines at work has steadily declined from 942 in 1923 to 644 in 1927. In Bengal and Bihar and Orissa 14 per cent. of the coal produced was obtained from Railway collieries, and 60 per cent. from collieries controlled by no more than fourteen firms of managing agents. The time may, therefore, be approaching when some measure of combination for the improvement and regulation of prices may become practicable. On the Continent of Europe combined selling agencies have been in existence for many years, and the system is now being tried in Great Britain. In the Transvaal 75 per cent. of the coal output is jointly sold by a combination of mine-owners. The weakness of the coal sellers' position is that *pari passu* with the improvement of prices more and more collieries working the poorer qualities of coal are re-opened. The same difficulty is experienced in the United States of America where coal is now sold for little more than cost price. In all countries the tendency is for an increasing proportion of the output to be produced by firms who require fuel for their own purpose rather than for sale in the open market. The provision of cheap power is becoming recognised as a matter of national importance. In India the working of collieries by the State, and the State scheme for the electrification of industries in the Punjab are signs of the times.

The improvement in the exports of coal, which was so marked a feature of the year 1926, was continued. 2,253,251 tons of cargo coal were exported, as compared with 2,058,667 tons in 1926. Bunkers, however, showed a small decline, the figures being 870,289 tons and 910,459 tons, respectively. There was an ample supply of railway wagons. The Indian Coal Grading Board continued to supervise and certify cargoes, and the work of the Board met with general approval.

In the Central Provinces economies effected at the collieries lowered costs sufficiently to enable coal to be sold at competitive prices in a falling market. The output of the better equipped collieries was maintained or even increased. Development work was postponed until such time as better prices will enable it to be financed.

In the Punjab great difficulties were experienced in working at a profit. The coal seams are thin and highly inclined, and transport difficulties add greatly to the cost. The Makarwal Colliery Company are contemplating the installation of an aerial ropeway, four miles in length, from the mine to the railway siding. The configuration of the country lends itself to such an installation and it should reduce the cost of transport to an appreciable extent.

The number of collieries using electric energy was 110 and the aggregate horse power employed increased from 54,548 to 59,539, i.e., by 9 per cent. During the year electric plant was installed and brought into operation in four more coal mines, but three mines using electricity were closed down. The number of coal-cutting machines in use increased from 126 to 141; of these 124 were driven by electricity and 17 by compressed air. 69 machines were at work in the Jharia coalfield, 65 in the Raniganj coalfield, one in the Bokaro coalfield and 6 in Central Provinces. Coal-cutting machines were in use in fifty-five mines. The total area undercut by the machines was 7,555,748 sq. feet, as compared with 6,076,352



sq. feet undercut in the previous year. The use of machines for winning coal in the Raniganj coalfield is rapidly extending.

In Appendix I, Tables 7, 8 and 9, statistics are given of the electrical plant in use at mines in the various provinces of British India and in certain mine fields.

During the year 2,029,125 lbs. of gunpowder, 243,244 lbs. of high explosives and 192,115 lbs. of "permitted" explosives were used at coal mines under the Act. These figures compare with 1,762,498 lbs. of gunpowder, 269,742 lbs. of high explosives and 73,656 lbs. of "permitted" explosives used in 1926.

In Appendix I, Table 10, particulars are given of the number of mechanical ventilators in use in coal mines under the Act. Sixty-seven mechanical ventilators were in use in 1927, as compared with 66 in 1926.

In Appendix I, Table 11, particulars are given of the number of safety lamps in use in coal mines under the Act. 17,600 safety lamps were in use in 1927, as compared with 15,659 in 1926.

#### IRON ORE.

The production of iron ore was 1,068,281 tons, valued at Rs. 25,97,046, as compared with 600,363 tons in 1926, the increase being 77.94 per cent. At the Gua mines in the Singhbhum district two new areas were opened up and construction was commenced in a third area. Considerable damage was caused by heavy floods in the months of July and August. This affected the output and also delayed the completion of new construction works. At the Manharpur mines in the same district the floods did no material damage to the mines, but the light railway suffered severely and traffic was stopped for twelve days. Communication with one of the mines was cut off for more than two months owing to a large bridge being completely washed away.

A new mine was opened by the Tata Iron and Steel Company, Limited, at Noamundi in the Singhbhum district. As the mine is conveniently situated with respect to the Company's Steel Works at Jamshedpur, and the natural conditions for mining are favourable, it is expected that an increasing quantity of ore will be taken from this mine in preference to the ore mined at Gurumahishani in Mayurbhanj State. The excavations already extend over a length of  $1\frac{1}{2}$  miles, and the ore is brought to a central point where a large bunker and two crushing units are being installed. A steam-driven air compressor is at work, and a power station is about to be built.

#### MANGANESE ORE.

There was a small increase in the output of manganese, the figures being 878,521 tons, valued at Rs. 1,32,07,899, as compared with 857,099 tons in 1926. The demand for second grade ore was small and that for first grade ore decreased especially in the case of ore with a high phosphorus content. The average f.o.b. price for first grade ore was 12d. per unit, and prices were weaker at the end of the year. Sea freights averaged about 19s. per ton.

### LEAD-SILVER ORES.

The output of lead-silver ores from the Bawdwin mine in the Northern Shan States, Burma, was 449,817 tons, as compared with 362,505 tons in 1926. The increase was therefore 24.09 per cent. 65,464 tons of refined lead, 503 tons of antimonial lead, 6,004,437 ounces of refined silver, 11,872 tons of copper matte and 58,286 tons of zinc concentrates were produced.

The average values of metals extracted were as follows:—Refined lead Rs. 334-7-3 per ton; antimonial lead Rs. 264-8-8 per ton; and refined silver Rs. 1-9-3 per ounce.

The quantities of materials used for the purpose of fluxes were as follows:—Iron ore 53,393 tons, limestone 41,776 tons, quartz rock 546 tons and iron pyrites 3,508 tons.

In July as the result of very heavy rain there were several wash-outs and land slides on the Company's railways. Traffic was entirely suspended for six days and was continued with difficulty throughout the month of August. Recovery work in the fire area was continued, the heat being gradually dissipated by the circulation of large volumes of air. A motor road, some 18 miles in length, to connect the Bawdwin mine with the smelting works at Namtu was under construction.

### GOLD.

The output of gold increased from 1,053 ounces in 1926 to 2,395 ounces in 1927. The whole of it came from a single mine in the Anantapur district. During the year operations ceased and there appears to be no intention to resume work.

At Kundarkocha mine in the Singhbhum district prospecting operations were carried on in an area formerly worked to some extent by the Dalbhum Gold and Minerals Prospecting Syndicate. The original workings date from pre-historic times. A small crushing and separating plant was under construction.

### TIN AND WOLFRAM ORES.

The output of tin ore was 2,656 tons, valued at Rs. 50,29,225, as compared with 2,568 tons in 1926. 530 tons of wolfram ore valued at Rs. 2,60,673 were produced, as compared with 751 tons in 1926. In the Tavoy district nine mining leases were granted and one was surrendered. The total number of leases was 68, and the total area leased was 45,628 acres. In the Mergui district two mining leases were granted. The total number of leases was 39, and the area leased was 34,810 acres.

The ancient method of ground-slucing is that usually employed, but a certain number of gravel-pumps are being used in conjunction with monitors, five dredgers are in actual operation, and a large dam and a lengthy pipe line are being constructed. There is a proposal to dredge the sea-flats south of Mergui, and a prospecting license over an area of about 80 sq. miles of sea coast, has been granted.

### CHROMITE ORE.

There was a small increase in the output of chromite. 17,086 tons valued at Rs. 2,67,445 were produced, as compared with 16,455 tons in 1926.

### COPPER ORE.

The output of copper ore was 5,010 tons, valued at Rs. 2,00,400, as compared with 9,508 tons in 1926. Except for 10 tons which were mined in the Nellore district the whole of the production was from a single mine at Mosaboni in the Singhbhum district where ore reserves exceeding half a million tons are said to have been proved. A dressing, smelting and refining plant is being erected on the bank of the Subarnarekha river about 2 miles north-east of Ghatsila station, Bengal-Nagpur Railway, and 8 miles by road from the mine. A ropeway  $5\frac{1}{4}$  miles in length is being erected to carry the ore from the mine to the dressing and smelting plant. The plant is of a modern design which includes froth flotation units and water tube boilers fired by waste heat or pulverised fuel. Three 650 kilowatt turbo alternators are being installed. It is hoped to commence production by the end of 1928.

As mentioned in an earlier paragraph 11,872 tons of copper matte were produced in the smelting of lead-silver ores in Burma.

### ZINC ORE.

From the composite ore mined at the Bawdwin mine in the Northern Shan States, Burma, 58,286 tons of zinc concentrates were produced for shipment. The production in 1926 was 48,834 tons.

### GEMS.

The agent of the mines worked by the Burma Ruby Mines Limited near Mogok in the Katha district has reported that the value of the gems handled by the Company during the year 1927 was:—

Rubies	:	:	:	:	:	:	:	:	Rs.	1,18,000
Sapphires	:	:	:	:	:	:	:	:		1,61,500
Spinals	:	:	:	:	:	:	:	:		334
									<b>TOTAL</b>	<b>2,79,834</b>

The pocket at the Kyaungdwin mine was cleaned out but several more valuable stones were found as the area of the mine extended. Another working face east of Kyaungdwin called Kathe Sluice (Kathe valley) also yielded valuable stones.

There is a large number of native licensees who mine in a primitive fashion and pay a royalty to Government for the privilege. It is impossible to ascertain the value of the gems they produce but judging from the number of men employed the value must reach an amount quite equal to that produced by the Company. The native licensees are supervised by Company's officials who inspect their mines, do such blasting as may be required and endeavour to settle disputes and suppress illicit mining. The fees paid by the native licensees are collected by the Company and the amount paid to Government less 10 per cent. for cost of collection and supervision.

### MICA.

The quantity of mica consigned was 42,081 cwt. valued at Rs. 24,27,361, as compared with 41,451 cwt. in 1926. The output of dressed mica in 1927 was 51,682 cwt. as compared with 48,663 cwt. in 1926. Prices dropped some 10 to 15 per cent.

In Bihar and Orissa the greater part of the reported production is now being obtained from underground mines. There is said to be no evidence of the veins pinching out as the mines become deeper; the same bands of unprofitable ground as occur near the surface, are found in depth. The principal producers complain bitterly not only of their losses by thefts of mica but also of the depression of prices brought about by the entrance into the market of large quantities of "unofficial" mica. The General Manager of the largest group of mines reports that "work has suffered generally by the frequent attendance at Court of members of our European and Indian staff, either as defendants or complainants, in the endeavour to check mica theft."

In the Nellore mica mines in the Madras Presidency no new mines have been opened for several years and little development has been done in the mines which are being worked. Some of the mines were damaged by a cyclone which occurred in November. The greater part of the mineral produced was spotted mica of an inferior grade. As at present conducted the industry does not appear to be profitable.

#### ROCK-SALT.

The production of rock-salt increased from 122,801 tons in 1926 to 145,311 tons in 1927.

#### LIMESTONE.

The reported production of limestone increased from 827,222 tons in 1926 to 1,132,235 tons in 1927.

#### STONE.

From the one hundred and six stone mines from which figures were obtained 934,737 tons of igneous rock, 330,608 tons of unspecified rock, 56,664 tons of laterite, 40,331 tons of sandstone, 11,103 tons of gravel and 1,083,060 tons of murum were produced. The total production was 2,456,503 tons, as compared with 1,457,194 tons in 1926. The increase was due to the fact that figures were received from nearly double the number of mines than in 1926.

#### CLAYS.

From the twenty-six clay mines from which figures were obtained 67,269 tons of fire-clay, 23,644 tons of china clay and 10,773 tons of ordinary clay were produced.

#### OTHER MINERALS.

16,966 tons of magnesite valued at Rs. 2,02,656, 17,086 tons of chromite valued at Rs. 2,67,445 and 6,911 tons of slate valued at Rs. 1,59,619 were produced. Small quantities of bauxite, steatite, gypsum, ochre, kyanite, corundum, barytes, apatite, asbestos, silica sand, fuller's earth and bismuth were also produced.

## Section III.—Accidents.

During the year 1927 at mines regulated by the Indian Mines Act, 1923, there were 209 fatal accidents, which is eleven more than in 1926 and six less than the average number in the preceding five years.

These accidents involved the loss of 247 lives, which is twenty more than in 1926. Of these persons 217 were males and 30 were females. In one case seven lives, in one case five lives, in two cases four lives, in five cases three lives and in twelve cases two lives were lost. There were in addition 680 serious accidents involving injuries to 713 persons.

The proportions of accidents which occurred to males and females underground, in open workings, and on surface during the year were as follows:—

	No. of fatal accidents.	No. of males killed.	No. of females killed.	Death rate per 1,000 persons employed.		No. of serious accidents.	No. of males injured.	No. of females injured.	Serious injury rate per 1,000 persons employed.	
				Males.	Females.				Males.	Females.
Underground .	153	146	25	1.71	0.78	445	407	61	4.63	1.92
Open workings .	27	43	1	0.88	0.04	83	78	12	1.56	0.43
Surface .	29	26	4	0.48	0.21	152	138	23	2.47	1.16

The causes of the fatal accidents have been classified as follows:—

	Number of fatal accidents.	Percentage of total number of fatal accidents.
Misadventure . . . . .	131	62.68
Fault of deceased . . . . .	45	21.53
Fault of fellow workmen . . . . .	7	3.35
Fault of subordinate officials . . . . .	14	6.70
Fault of management . . . . .	12	5.74
Total . . . . .	209	100.00

There were two accidents caused by ignitions of fire-damp, as compared with eight in the previous year. In one of these accidents one person was fatally burnt and another slightly injured. In the other accident two persons were injured. Prior to the ignitions both the mines in which they occurred were being worked with open lights. Safety lamps have since been introduced.

There were 101 fatal accidents and 212 serious accidents from falls of roof and sides. The fatal accidents were precisely the same in number as in 1925 and in 1926. The serious accidents were fifty-five more than

in 1926. Of the fatal accidents 18 were due to persons having passed through fences with the object of working in prohibited places, and 24 took place in places where pillars of coal were being extracted.

There were ten fatal accidents in shafts, which is six less than in the previous year. One person was killed by overwinding, two by falling from cages, four by persons falling down shafts, one by a piece of coal falling down a shaft. In one case the victim carelessly allowed his head to project into a cage at a time when the cage was being lowered from the surface. In none of these accidents was more than one person killed. There were 23 serious accidents in shafts, which is the same number as in the previous year.

In three accidents nine persons were suffocated by noxious gases, and in two of these cases the accidents would not have occurred if the simple precaution of testing the air with a light had been taken.

The number of fatal accidents caused by explosives was 18, or three more than in the previous year. Seven of the accidents were due to failure to retire sufficiently far from or returning too soon to places where blasting was being done. Seven were the result of tampering with misfired charges of explosives. Three accidents, causing nine deaths, were due to the mishandling of explosives. There were 39 serious accidents.

There were 24 fatal accidents on haulage roads, as compared with 26 in 1926 and 15 in 1925. Two accidents were caused by persons being crushed between tubs, eight by runaway tubs and four occurred to persons who were illegally riding on tubs. The number of serious accidents on haulage roads increased from 123 in 1926 to 202 in 1927, and 141 of these occurred on tram lines on which tubs are pushed by hand. Most of these latter accidents were caused by carelessness.

Of the three fatal accidents caused by underground machinery two occurred to the drivers of bar coal cutters who failed to jump clear when the machines they were operating accidentally swung round.

Five fatal accidents were caused by surface machinery, and in two of these cases the victims were persons who with the object of obtaining shelter on a stormy night had crawled inside the drums of engines used for winding or hauling. If convenient shelter had been provided the accidents would probably not have occurred.

Fifteen fatal accidents occurred on surface railways and tramways belonging to the mines. In six of these cases the victims were crushed between tubs, and in two cases the fatalities were due to persons illegally riding on tubs. There were 26 serious accidents.

Two fatal and four serious accidents were caused by electricity.

Among the miscellaneous accidents there were four cases of women being fatally injured by falling whilst carrying heavy loads of mineral.

Twenty-four accidents causing 35 deaths were excluded from the statistics for reasons which are given in Appendix II. In three of these accidents 13 persons were killed by the fall of buildings in which they were sheltering during a cyclone which traversed the Nellore mica field in the Madras Presidency.

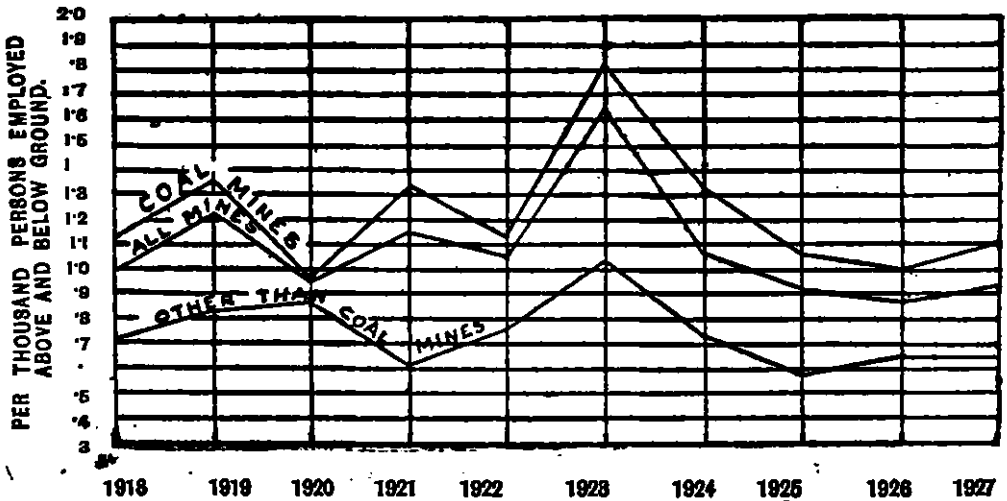
The death rate per thousand persons employed above and below ground was 0.92 while that of the preceding five years was 1.11. At coal

mines only the rates were 1.10 and 1.26 and at mines other than coal mines 0.63 and 0.72. At all mines under the Coal Mines Act in Great Britain during the ten years ending with and including 1926 the average death rate per thousand persons employed was 0.98, as compared with 1.22 for Indian coal mines.

The chart below shows graphically the variations in the death rates during the decade 1918-1927.

## CHART SHOWING

THE DEATH RATE FROM ACCIDENTS DURING THE PERIOD 1918-1927.



THE HIGH RATE IN 1923 WAS DUE CHIEFLY TO AN EXPLOSION IN A COAL MINE WHICH CAUSED THE LOSS OF 74 LIVES.

The death rate per million tons raised at coal mines was 8.57, while that of the preceding five years was 11.60.

Deaths occurring in each class of mine were as follows:—181 in coal mines, 5 in mica mines, 15 in manganese mines, 14 in silver-lead mines, 4 in tin and wolfram mines, 7 in limestone mines, 15 in stone mines, 3 in iron mines, 1 each in salt, gold and chromite mines.

One person lost his life by an ignition of gas, 63 lost their lives by falls of roof, 59 by falls of sides, 10 in shafts, 9 by suffocation by gases, 27 by explosives, 24 by haulage, 24 by other accidents underground and 30 on the surface.

The number of serious accidents reported was 680, as compared with 507 in 1926. Since 1923 the number of serious accidents reported has more than doubled, and the reason for this increase in reported accidents is the fact that workmen are now legally entitled to compensation for injuries received in the course of their employment in mines.

Since the Indian Workmen's Compensation Act, 1923, came into force an association called the Calcutta Claims Bureau has been formed by representatives of twenty-seven of the leading insurance companies in India. During the year 1927 the staff employed by the Bureau dealt with nearly 3,000 claims, of which a small number were claims made by employees in mines. With the introduction of the Trade Union Act, 1926, which came into force with effect from 1st July 1927 the number of claims put forward by Trade Unions is likely to increase. On request the findings of the Mines Department in cases of accidents in mines are furnished to Commissioners for Workmen's Compensation and to the manager of the Calcutta Claims Bureau. The Additional Deputy Commissioner, Manbhum, reports that "the Workmen's Compensation Act has been in operation during the year under report and a fuller advantage of its provisions is being taken by the workmen and their dependants. It is becoming increasingly better known and better understood, with the consequence that applications for claims have greatly increased. Although claims are generally admitted when due, there is an increasing tendency to resist claims and to deny liability if this can be done, particularly, on the part of smaller concerns which have been all but ruined by the severe depression in the coal industry. The result is that a large number of claims are being contested and the work of the Commissioner under the Act is ever on the increase".

It is regrettable that the discipline maintained in Indian mines is far below the standard attained in other countries. During the year at a certain coal mine a miner went down the mine after absence from work for a fortnight. Instead of going to the sirdar for instructions he drilled a hole and fired a shot in the corner of a pillar of coal, and was the cause of another miner being injured. It transpired that he had been keeping the gunpowder used on this occasion in his quarters at the mine for a fortnight. As he had violated Coal Mines Regulations 82, 84 and 98, he was prosecuted, convicted and sentenced to one month's imprisonment. Most of the labourers in Indian mines are illiterate and ignorant men to whom ideas of discipline are something new and difficult to comprehend. They are, however, amenable to discipline, and it is one of the most important duties of a manager to train the labourers in "safety first" principles both by personal example and through subordinates. At many mines a great deal has already been done, and at this mine after a change of management improvements were effected.

In the course of an enquiry into the circumstances of a fatal accident which occurred at a certain coal mine during the year it was disclosed that during the night shift on which the accident took place there was no underground official on duty, and this had come about because the night shift overman had been acting for the day shift overman who was ill and the night shift sirdar had been taken ill and had failed to report his inability to go on duty. With a view to the avoidance of contingencies of this kind the manager of the mine passed orders that an official coming off duty must make over charge to the man who is going on duty. If a relief does not arrive the official coming off duty must send a message to his official superior, and must himself remain on duty until relieved. In the event of a certificated sirdar not being available



to take up emergency duty a competent person may be deputed to perform the duties of the sirdar, as provided under Coal Mines Regulation 70 (3). Managers of mines would be well advised to pass a similar order of this kind. They should also instruct cage-attendants not to permit workmen to go underground until an official has preceded them.

During the year there was an alarming occurrence at Parbelia colliery, which is the deepest (1,500 feet) coal mine in India. The seam worked is the Dishergarh seam which is gassy and produces coal dust of a highly inflammable character. In 1922 and 1923 there were severe explosions at the colliery. On a certain day early in 1927 the manager of the mine was engaged in an inspection of the underground workings when news was brought to him that there was a fire near the face of one of the rise galleries. He went to the place immediately and found that at a point 2 or 3 feet from the face a blue flame, about 2 square feet in area, was rising from the floor to a height of about six inches. By the use of a few tins of stone-dust he had no difficulty in putting out the flame. Immediately afterwards he searched all persons in the vicinity, but found no contrivance which would produce flame. He further examined the safety lamps and found them all burning and in good order. The miner who was at work in the place at the time when the gas caught fire said that he was cutting coal near the bottom of the seam when his pick struck sparks, and gas issuing from the floor became ignited. On the following morning a Junior Inspector of Mines visited the place. He found that fire-damp was issuing from the face, floor and roof of the heading. He had all the safety lamps dismantled, but could find nothing wrong with them. The manager drew his attention to the pick which the miner had been using. On one point of the pick there was a white incrustation for which he was unable to account. At the place where the miner said he had been working he found a nodule of ironstone which when it was struck with a pick produced strong sparks.

From time to time in other parts of the world there have been reported instances of the ignition of fire-damp by sparks from picks. An instance of this kind was reported at some length in the annual report for 1926 of the Divisional Inspector of Mines for the Scotland Division. The following is an extract from the annual report for 1926 of the Safety in Mines Research Board, British Mines Department:—

“The difficult problem of the ignition of fire-damp by sparks from picks or from rock striking on rock requires but little more experimental study. It has been found possible to cause the ignition of fire-damp by rock (sand-stone) rubbing against rock and by the continued friction of steel picks against sand-stone; not, however, by sparks then produced, but by reason of the rubbing surfaces becoming sufficiently heated. It will be understood that considerable power, applied continuously at the same spot, is required to heat rock surfaces in this manner. We have not succeeded in obtaining ignition of fire-damp by sparks from picks and we doubt if they are capable of causing ignition.”

During the year there were eleven reported cases of underground fires in coal mines. One of these fires occurred in a mine which is the fifth mine to be destroyed by a fire which originated in a neighbouring mine in the year 1919. The five collieries concerned are shown in Plan A. The original fire broke out in No. 1 colliery and eventually crossed barriers of more or less width at three different points setting fire to collieries 2, 3 and 4. From collieries 2 and 4 the fire spread to colliery

5. At the point where the fire passed from colliery 4 to colliery 5 the barrier as shown on the plan was no less than 450 feet in width; it was presumed, however, that there had been an encroachment which was not shown on the plan. The fiery nature of the coal in this area and the evident disregard for boundaries which the plan discloses was considered to be sufficient justification for the use of the powers under which mineowners can be required to increase the width of boundaries from 25 to 50 feet. The owners of eight collieries in that part of the Raniganj coal field where these fires occurred were, therefore, ordered to maintain barriers not less than 50 feet in width.

A list of the fatal accidents appears in Appendix II, Table I, where each is described briefly. The details of certain accidents are reported at greater length as follows:—

#### EXPLOSIONS AND IGNITIONS OF FIRE-DAMP.

##### *No. 1.—The Bengal Coal Company, Limited's Murulidih coal mine.*

At this colliery there are three separate mines, and at the time of the accident safety lamps were being used throughout the whole of the workings of two of the mines. In the workings of the third mine (Nos. 12 and 13 pits) there was an ignition of gas in 1915, and safety lamps were introduced throughout the greater part of the workings. In 1918, however, they were not considered to be necessary except in a few places, and subsequently their use was discontinued entirely, although the statutory daily inspections of the workings continued to be made with safety lamps. There is reason to believe, however, that small quantities of gas are continually being emitted throughout the whole of the workings of the colliery, and that it was only by reason of the fact that all the workings of Nos. 12 and 13 pits were advancing towards the dip that the presence of gas had rarely been detected in that mine. In galleries advancing towards the dip fire-damp cannot readily accumulate as it is lighter than air and as it is given off from the coal it flows away from the face and becomes dissipated to such an extent in the main body of the air current that its presence cannot readily be detected.

At No. 12 pit on 20th September 1927 a miner accompanied by a female carrier came to work in a gallery which, contrary to the usual practice, was being driven to the rise. The gallery had extended to a distance of 35 feet and for the last 6 feet had been driven not more than 5 feet in width. There had been no work in the gallery for two days, and fire-damp had accumulated there. As the miner advanced towards the face he raised his open lamp and ignited the gas. He was burnt all over his body and succumbed to his injuries ten days later. The woman who was waiting a few yards behind him was also burnt but less severely.

At the time when the ignition took place a Junior Inspector of Mines was making an inspection of the mine. He went to the place at once and with a safety lamp was able to detect fire-damp at a point 8 feet from the face. There was a good current of air (36,000 cubic feet per minute) circulating throughout this district of the mine but no arrangements had been made for conducting it into the rise gallery where the atmosphere was hot and stagnant.

The overman stated that he had made the statutory daily inspection of the gallery with a safety lamp some four hours before the ignition took place, and that he had not detected fire-damp. If he actually did so his inspection must have been perfunctory and it was clearly useless as a safeguard. He was prosecuted and convicted of a breach of Coal Mines Regulation 70. The manager was also considered to have been negligent; he must have been aware that gas was frequently being detected in the rise workings of the adjacent mines in the same seam at this colliery, and yet he did not think it necessary to take precautions in driving this gallery to the rise. But for the fact that he had not been very long at the colliery and that he had had very little experience of fire-damp criminal proceedings would have been instituted against him for violation of Coal Mines Regulation 121.

After the accident safety lamps were introduced throughout the whole of the workings of the colliery.

#### FALLS OF ROOF.

##### *No. 35.—Messrs. Linton's Angarpathra Colliery Company, Limited's Linton's Angarpathra coal mine.*

At this mine small pillars of coal, 20 feet in height, were being extracted at a point where the coal seam lies at a depth of only 22 feet below the surface of the ground. The pillars were irregular in shape and size. On the average they were about 20 feet long and 20 feet wide, and the galleries varied from 10 to 20 feet in width (see Plan B). The method of working was to reduce the pillars to the smallest dimensions considered consistent with safety. This was done chiefly by blasting coal from the sides of the pillars. The roof being of a fairly sound nature it was not considered necessary to support it except by occasional props which served to hold up a band of shale, 6 inches thick, immediately overlying the coal seam. Prior to the accident pillars P. 1, P. 2, P. 3 and P. 4 were said to have been abandoned, but judging from the comparatively large size of pillars P. 3 and P. 4 it seems by no means unlikely that these two pillars were still in process of reduction, and this view was confirmed by one of the miners who deposed that two shots were fired in two different pillars shortly before the accident took place. However this may be, the reduction of pillar P. 5 appears to have been in process, and shortly before the accident a shot had been fired at the south corner of the pillar. Whilst the coal brought down by this shot was being loaded by a gang of six persons a mass of roof, 30 feet x 20 feet x 6 inches thick, fell, killing two and fatally injuring another of the workers.

After the accident a single prop was found under the fallen stone. There is reason to believe that prior to the accident the miners themselves considered the place to be unsafe. One of them deposed that they were unwilling to work there, and this was confirmed by the headman of the gang who deposed that on the previous morning he had said to the overman that the place was not safe without props as it was very wide, and the overman had replied that they could either work there or go home. Shortly after the accident there was an expression of strong feeling against the overman, and police protection had to be obtained.

The resident agent of the colliery who was accustomed to take considerable part in the management stated that when he last visited the place about a month prior to the accident he had told the manager to adopt systematic timbering. The manager who had last visited the place four days before the accident occurred admitted that he had received the agent's orders to adopt systematic timbering, and stated that he had passed them on, but neither he nor the agent took any steps to see that they were carried out. Criminal proceedings were instituted against the agent, the manager and the overman and they were convicted and punished. The overman to whose negligence the accident was largely due was sentenced to imprisonment for one month and a fine of Rs. 100.

*No. 86.—The Punjab Public Works Department's Tarki limestone mine.*

It was not until recently when stone mines were brought under the Indian Mines Act, that it came to notice that the operation of stone quarrying is frequently carried on in India with small regard for the safety of the workers.

In this case a number of workmen were sitting in the shade of a railway cutting, 25 feet deep, and under construction, when a small fall of ground from the side of the cutting partly buried two of them. Whilst rescue work was in progress there was a further and larger fall which killed not only the two men already endangered but also two of the rescue gang. The Inspector who inquired into the circumstances of the accident was of the opinion that if the sides of the cutting had been sloped as they should have been the accident would probably have been avoided. He found that elsewhere in the mine the sides of the excavations were not being kept in a safe condition, that sufficient care was not being taken to guard against accidents by explosives, and that no ambulance appliances were being kept at the mine. On a complaint being addressed to the Executive Engineer he replied that it was impossible for the subordinates in charge of the quarry to exercise full control over the workmen employed by the contractor. The Chief Engineer was then requested to arrange for the employment of a staff competent to secure a proper observance of the Regulations made under the Mines Act. The system of permitting contractors to work stone mines with little or no supervision has in the past been usual with large employers such as the Public Works Department and the Railways, and no doubt the officers in control were to a large extent unaware of the risks undertaken. Many of them have already devised a better system of supervision, and it is hoped that accidents and defects of the kind referred to above will become fewer as supervision improves.

IN SHAFTS (WHILE ASCENDING OR DESCENDING BY MACHINERY).

*No. 104.—The East Indian Coal Company, Limited's Bararee coal mine.*

*No. 103.—The Hurriladih Coal Company, Limited's Kendwadih coal mine.*

Since the general adoption of rigid cage gates there have been few fatalities caused by persons falling from cages, and in the year 1928

there were no accidents of the kind whatever from this cause. The record for 1927 is unfortunately less satisfactory for there were two fatal accidents caused by persons falling from cages.

At Bararee colliery the cage gates consisted of two detachable rigid bars on each end of the cage. Five miners entered the cage at the bottom of the shaft, and the onsetter is said to have attached the bars before signalling for the cage to be raised to the surface. When the cage arrived at the surface one of the men was found to be missing, and the lower bar at one side of the cage was also missing; the body of the man and the missing bar were later found at the shaft bottom. It appears that the deceased had dropped his lamp, and that whilst crawling about in the bottom of the cage trying to recover it he had fallen out. It seems unlikely that in looking for his lamp he had removed the bar; it is possible that the bar had not been fixed before the cage was lifted. It was suggested to the management that this type of rigid gate is unsuitable, and subsequently a more suitable type of gate, of a non-detachable kind, was adopted.

In the case at Kendwadih colliery a loaded tub when being pushed into the cage fouled the gate and damaged it to such an extent that it was put out of action. The gate was removed and sent to the workshop for repairs, and meanwhile a chain was used as a temporary gate. A miner was sent down in the cage alone, and the chain was said to have been fastened. Whilst the cage was being lowered he fell to the bottom of the shaft and was killed. When the cage reached the bottom of the shaft the chain was found to have been unhooked. It was assumed that when the cage was being retarded near the bottom of the shaft deceased, thinking that he had reached the bottom of the shaft, opened the chain and stepped from the cage. It transpired that it was the first day of deceased's employment at the mine and that at the time of the accident he was descending the shaft for the first time. It appears that he was a complete stranger to the mine, and there was even a doubt as to whether he had ever before ridden in a cage.

The cage gate had been out of order for at least sixty hours. The delay in effecting repairs is regrettable. Repairs of the kind should be effected with the least possible delay. Arrangements should be made for all new-comers to be accompanied by a sirdar or other responsible person when descending a shaft for the first time. It is desirable that a light should be carried when persons are descending a shaft in a cage, but the risk of setting fire to clothing necessitates the prohibition of open lights, and a closed light is not always available. Onsetters should be instructed not to allow strangers to go down alone in the cage.

#### IN SHAFTS (THINGS FALLING DOWN SHAFTS).

*No. 11p.—The New Manbhum Coal Company, Limited's Gazlitan coal mine.*

A cage attendant was about to pull an empty tub out of a cage standing at the bottom of a shaft, 340 feet deep, when he was struck on the head and killed instantly by a piece of coal which had fallen from the surface.

Coal Mines Regulation 58 (h) enjoins that "at the bottom of every working shaft in which a cage is used, protective roofing shall be provided sufficient to prevent danger from anything falling in the shaft".

At the shaft referred to above the inset is 18 feet in height and a sloping protective roofing, 12 feet in length, had been fitted some years previously. In order to facilitate the handling of props, rails, pipes, etc., taken down on the cages a space of over 2 feet had been left between the lower edge of the roofing and the top of the cage. The Inspector who inquired into the circumstances of the accident suggested a method of increasing the protection afforded and at the same time permitting of pipes and rails being taken off the cages without difficulty. This consists of fitting a short auxiliary roof under and at the bottom of the old roofing, and constructing this additional roof in such a way that certain sections of it are hinged at their inner extremity and suspended at the outer extremity by strong iron hangers from a rail which is at the bottom of the existing roof. The suggestion was approved by the manager and an additional roof of the type indicated, and extending within 3 or 4 inches of the cage, was fitted.

#### SUFFOCATION BY GASES.

##### *No. 113.—The Burma Corporation Limited's Bawdwin lead-silver mine.*

At this mine there was an outbreak of fire in 1924, and it became necessary to seal off the affected area. Subsequently the workings were reopened, and by gradual stages the greater part of the sealed area had been reclaimed. In the course of these reclamation operations a party of five miners was at work in the face of a level intermediate between zero level and No. 1 level (*see* Plan C). The method of working at the mine is one by which stopes are entirely filled by loose material obtained from the surface. Between Nos. 2 and 3 levels the ground has been stoped, and this particular stope, not having been completely filled owing to the outbreak of fire, collapsed. The collapse extended to the surface and blocked the intermediate level at a point about 100 feet from the face. Hot gases from the fire filtered into the space in which the men were imprisoned, and they were suffocated within a short space of time.

The collapse occurred at about mid-night and by 1-30 A.M. a rescue party headed by the Mine Superintendent had driven an iron pipe through the fallen rock debris. Through this pipe air from the compressed air main was blown in. The work was difficult owing to heated and irrespirable gases ascending through the broken ground. Subsequently a new road, 30 feet in length, was driven round the collapsed ground, and the bodies of the deceased were recovered 54½ hours after the collapse. It was considered that the men must have been unconscious within 15 minutes and dead within an hour.

It was known that the stope below No. 2 level had not been completely filled, but as the ground had stood so long without any sign of trouble it was considered that it had settled down and that no particular danger was to be anticipated. The work of recovering this fire area is fraught with exceptional danger and difficulty, and as far as possible provision for the safety of the workers had been made.

##### *No. 114.—Messrs. F. F. Chrestien and Company, Limited's Harraiya mica mine.*

This accident occurred in a shaft 40 feet deep from which a level 160 feet in length had been driven. Some months previously it

had been decided to discontinue underground work and to convert the mine into an open excavation. The top of the winding compartment of the shaft was therefore covered over with timber. The opening for the ladder-way was already covered by a flat door. At the time of the accident the open excavation had attained a depth of 12 feet and had extended within 2 feet of the shaft. Shortly after work for the day had commenced the sirdar accompanied by a miner, named Naroo Roy, descended the shaft, whilst another miner, named Ghansyam Roy, remained on the surface at the top of the ladder-way. When Naroo had climbed down about half way he called out to Ghansyam that the sirdar had fallen to the bottom of the shaft, and asked him to come down at once. Ghansyam commenced to descend but had climbed down no further than the first platform at a depth of 10 feet when he felt oppressed and came up again to the surface where he reported that Naroo Roy in attempting to lift the sirdar had himself collapsed. Shortly afterwards Daulat Roy, father of Naroo Roy, arrived on the scene, and in spite of efforts made to prevent him descended the shaft in a gallant but vain attempt at rescue. The assistant in charge of the mine sent for the manager who on arrival found that the shaft was full of black-damp which with the means at hand he was unable to remove. A portable hand fan was obtained, but it was not until 5 A.M. on the following day that the black-damp had been cleared sufficiently to allow persons to descend the shaft in safety. The bodies of the three men were found at the bottom of the shaft, and the Company's medical officer expressed the opinion that death from poisoning by carbon dioxide must have occurred within half an hour of unconsciousness. The presence of the gas was considered to be due to the decomposition of the timber lining of the shaft.

No orders for the recommencement of work in the shaft had been given by the manager, and it could not be ascertained for what purpose the sirdar had descended the shaft. If he had taken the simple precaution of lowering a light to test the air, as required by Metalliferous Mines Regulation 51, the accident would have been avoided. That he did not do so may have been because he had had no previous experience of noxious gas. If managers and superior officials in mines take every opportunity of instructing their subordinates as to the requirements of the Regulations, accidents of this class will eventually cease to occur.

#### BY EXPLOSIVES.

*No. 123.—The Bhulanbararee Coal Company, Limited's Bhulanbararee coal mine.*

*No. 124.—The Burrakur Coal Company, Limited's Mudidik coal mine.*

During the year 1926, and as the result of the new regulations in respect of explosives, there was not a single fatal accident due to an explosion of gunpowder in or about miners dwellings. It is regrettable that this excellent record was not maintained during 1927.

At Bhulanbararee colliery a miner was fatally burnt by an accidental ignition of gunpowder which he was making up into cartridges on the verandah of his dwelling. Inquiry into the circumstances of the accident disclosed the fact that the regulations relating to the preparation of cartridges from loose gunpowder, drying of gunpowder, re-construction

of damp cartridges, and the issue of explosives had not been properly observed. The Inspector who held the inquiry found varying amounts of gunpowder in no less than six miners' dwellings. Criminal proceedings were instituted against the manager and six miners, and they were convicted and punished.

At Mudidih colliery a miner was drying gunpowder over a fire in his dwelling when the powder became ignited and he sustained fatal burning injuries. At the official inquiry into the circumstances of the accident it was disclosed that Regulations 98, 102, 103 and 105 had been violated in that explosives had been taken into a dwelling house, the gunpowder had been issued in the loose form, the unused explosives were not being returned to the magazine, no proper arrangements had been made to return them conveniently, and no competent persons had been appointed to prepare cartridges from loose gunpowder, to dry gunpowder and to reconstruct damp cartridges. Criminal proceedings were instituted against the manager and he was convicted and punished.

Accidents of this kind are clearly preventable. It is incumbent on managers to see that the regulation prohibiting the storing of gunpowder in dwelling houses is observed. From time to time the dwellings should be searched and offenders, if any, prosecuted. Proper arrangements should be made to enable miners conveniently to return unused explosives, and proper accommodation for the drying of gunpowder and the storing of cartridges should be provided. At many mines buildings heated by steam pipes have been constructed and have proved satisfactory.

*No. 127.—Contractor Ibrahim's Kyauktalone stone mine:*

This accident occurred in a quarry worked by a contractor on behalf of the Burma Railway Company, Limited. As the principal eye-witnesses of the occurrence were killed it was found to be impossible to ascertain the precise manner in which the accident took place. It appears that a blasting jemadar with the day's supply of explosives, consisting of 15 lb. of gelignite, 124 detonators and 7 coils of fuse, was seated on a heap of stones at a point about 50 feet from the railway siding and 120 feet from the face of the quarry. He had, it seems, completed the preparation of all the charges, and the latter were lying in a pile close to him. According to the evidence recorded the whistle for the mid-day rest had been blown, and the workmen were leaving the quarry. Many of them were passing the place where the blasting jemadar was seated when an explosion occurred. The casualties included six persons killed, one person fatally injured and eighteen persons seriously injured. The number is so large that it seems more than probable that the workmen had gathered round the blasting jemadar in readiness to receive their daily supply of explosives.

Inquiries as to the cause of the accident were made by Dr. N. L. Sheldon, Ph.D., F.I.C., Chief Inspector of Explosives in India, and by Mr. J. F. Waters, B.Sc., Junior Inspector of Mines. They concluded that the explosion was caused by rough or improper usage of a detonator or cartridge, or a spark from a locomotive engine or from someone smoking falling on the explosives.

Criminal proceedings were instituted against the owner and the manager of the mine for violation of Metalliferous Mines Regulations 6, 67 (failure to arrange for detonators to be kept in a securely locked box



separate from other explosives, and that the defonators are not inserted into priming cartridges until immediately before use) and 74 (failure to arrange that explosives are not taken into the mine in quantities exceeding 5 lb.).

No. 130.—Messrs. J. Sundermull and Company's Patrahia mica mine.

This accident occurred at the bottom of an inclined shaft 250 feet deep. On the previous evening twenty-five shots of dynamite had been fired by means of ordinary fuse, and the shot-firers had been unable to determine by counting the number of reports whether all of the charges had exploded. On the following morning thirteen persons including the manager and his assistant were at work in the shaft, and one of them was operating a compressed air drill when an explosion occurred, killing the operator of the drill instantly and seriously injuring another of the workmen.

The manager should have known better than to fire twenty-five shots at one time under such circumstances. In so small a space six or eight shots would have been sufficient, particularly as the shot-firers had to climb up a ladder a distance of 30 feet in order to reach a place of safety. Where a large number of shots is to be fired it is better to fire them simultaneously by electrical means.

Inquiry into the circumstances of this accident disclosed the fact that several of the regulations in respect of explosives had been contravened. The record of the manager in respect of accidents caused by explosives was not good. Criminal proceedings were instituted against him and he was convicted and punished.

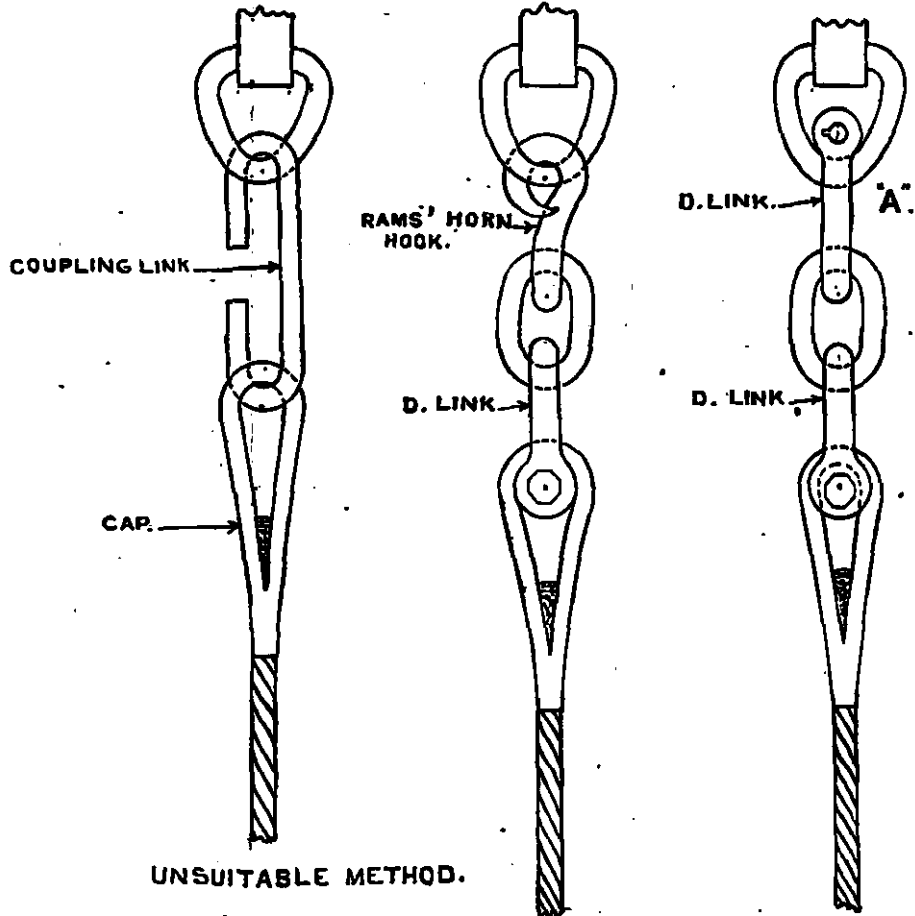
#### HAULAGE.

*The Budroochuck Coal Mining Company, Limited's Budroochuck coal mine.*

In the course of his duties a workman was walking on a haulage slope when he was run over and seriously injured by a tub which had become detached from the haulage rope. The rope, 1 inch in diameter, terminated in a heavy cap, and the cap was attached to the tub shackle through a single open link coupling. The Inspector who enquired into the circumstances of the accident expressed the opinion that this is not a suitable arrangement, particularly when, as in this case, a single empty tub is being hauled. A ram's horn type of hook, a snap hook or a specially constructed D link type of attachment, connected to the rope cap through the medium of one or two short links, would be more suitable. The Inspector tested the efficiency of the "drag" which was in use at the time, and found that it did not operate effectively on a tram line where the filling-in between the rails completely covers the sleepers and was hard or well beaten down. The design of the drag was suitable but the tail was not drawn out fine enough, and instead of the point of the wedge thus formed being turned downwards it was in line with the centre line of the shaft of the drag. Thus the tail of the drag could not bite into the hard surface of the track and it merely slipped along the surface. The manager agreed to adopt these suggestions. Sketches showing the previous method and the suggested method of attaching the rope to the tub, and the previous design and suggested design of the drag have been inserted in these pages (see figure 1).

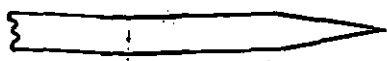
# SKETCHES SHOWING METHODS OF ATTACHING HAULAGE ROPES TO TUBS.

SCALE 1/8 FULL SIZE.

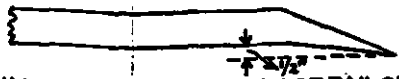


UNSUITABLE METHOD.

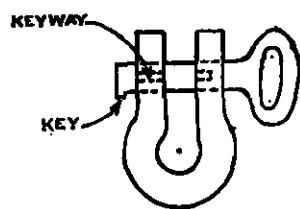
SUGGESTED METHODS.



TAIL OF ORDINARY DRAG.



SUGGESTED ALTERATION TO TAIL OF DRAG.



DETAILS OF D. LINK AT 'A' ABOVE.

FIGURE I.

## BY ELECTRICITY.

*No. 200.—The Equitable Coal Company, Limited's Bejdih coal mine.*

A driver was operating an electric haulage engine when a piece of plate glass,  $4\frac{1}{2}$  inch  $\times$   $4\frac{1}{2}$  inch  $\times$   $\frac{3}{16}$  inch thick, reinforced with wire netting, which was fitted on the top cover of the control switch, broke with violence, and some of the pieces deeply penetrated the driver's neck causing such loss of blood that he died within a very short time. The switch was of a mining type and its design followed some of the well-known principles on which the construction of present-day flameproof electrical apparatus is based. A spring-loaded relief valve was fitted on it to release the pressure which an internal explosion might cause. When the switch was examined after the accident it was found that one of the two nuts securing the carrier bar of the movable switch contacts was loose, and that several of the switch contacts showed signs of arcing. Owing to the slackness of the nut the switch contacts on two phases did not make proper contact. It was considered that the arcing at the defective contacts had volatilised the oil in which the contacts were immersed, and that the level of the oil had fallen sufficiently low to allow the arcing to ignite the oil vapour, thus causing an internal explosion. The relief valve had apparently failed to function properly or the glass would not have broken.

The accident is of an unusual type. It proves that with imperfect contact between current carrying parts an explosion in an oil switch can occur even if the switch contacts are immersed in oil, and further that an oil switch which has not been tested to withstand successfully an internal explosion is a potential danger in any place where there is a risk of the presence of inflammable gas. Also that, in the design of flameproof apparatus large openings in the casings, even when they are covered by reinforced plate glass, should be avoided.

#### Section IV.—Prosecutions and additions to the Act.

##### PROSECUTIONS.

During the year judgments in prosecutions were given as follows:—

“Regulation” means a regulation made under Government of India Notification No. M-1055 (1) or (2), dated the 7th and 8th September 1926, respectively. “Rule” means a rule made by the Local Government under Section 30 of the Act.

The owner of the Uttarsanda Coal Company's Egarcoor colliery was prosecuted under Rule 18 for failing to have the openings into an abandoned mine fenced by a permanent structure. He was fined Rs. 60 or in default to undergo simple imprisonment for a fortnight.

For contravention of the same Rule the two guardians of the owner of Babu Dharani Dhar Roy's West Baraboni colliery were prosecuted. One of them was fined Rs. 200 whilst the other was acquitted.

The owner and agent of Sheikh Shahabuddin and Son's Kothideo colliery were prosecuted under Rule 38 for failing to erect permanent fencing round an incline after it had been abandoned. They were fined Rs. 20 each or in default to undergo rigorous imprisonment for one week.

The owners (two) and manager of A. C. Bose and Gopiram Bhotika's Central Nandi colliery were prosecuted under Regulations 53 (1) and 138 and Rule 18 for failing (a) to provide a second outlet to the mine, (b) to provide a gate to the entrance to an incline, and (c) to keep the top of a pit properly fenced. They were each sentenced to a fine of Rs. 50 or in default to undergo simple imprisonment for one month.

Two shot-firers of the Equitable Coal Company, Limited's Hurriladih colliery were prosecuted under Regulation 98 for keeping cartridges and gunpowder in their dwelling houses. They were sentenced to a fine of Rs. 10 each or in default to undergo simple imprisonment for five days.

Under the same Regulation five miners of the Bhulanbararee Coal Company, Limited's Bhulanbararee colliery were prosecuted and fined Rs. 20 each or in default to undergo simple imprisonment for fifteen days.

A shot-firer of the Aldih Coal Company, Limited's Bhutgoria colliery was prosecuted under Regulation 110 for firing shots in a strip of coal, 4 feet 6 inches thick, which separated two working places, and neglecting to fence off the working place adjacent to that in which the shots were fired, as a result of which two miners were injured. He was sentenced to two weeks' rigorous imprisonment and a fine of Rs. 30 or in default to undergo rigorous imprisonment for one week more.

The manager of the Bansdeopur Coal Company, Limited's Bansdeopur colliery was prosecuted under Regulation 88 for failing to provide a sufficient number of manholes in a haulage incline; he was fined Rs. 45.

The owners (three) and manager of Messrs. Shew Karan and Sons' Belbaid colliery were prosecuted under Regulations 58, 67 and 137 for failing (a) to have written reports of the daily inspections made, (b) to keep the sides of an incline secure and (c) to keep the top of certain pits fenced. One of the accused died; the others were fined Rs. 50 each.

The owner and manager of the Doogdha Coal Company's Doogdha colliery were prosecuted under Regulation 69 (2) for failing to slope, step or secure the sides of a quarry so as to prevent danger from falls of material, with the result that a fatal accident occurred. They were fined Rs. 500 and Rs. 100, respectively, or in default to undergo rigorous imprisonment for two months.

The owners (four) and manager of Messrs. K. P. Chatterjee and Brothers' Hariipur colliery were prosecuted under Regulations 63 and 141 and Rule 17 for failing (a) to post notices regarding the number of persons allowed to ride at the same time in the cage, (b) to fence all exposed and dangerous parts of the haulage engine and (c) to keep fenced surface subsidences which were liable to endanger persons. They were fined Rs. 50 each or in default to undergo simple imprisonment for one month.

The owners (five) and manager of Harsookdass Balkissendass' Bogra colliery were prosecuted under Regulations 56 and 58 (d) and (h) for failing to make proper provision for persons to pass from one side of a shaft to the other and for not providing sufficient cover on the winding apparatus; also for not providing protective roofing at the bottom of shafts. They were fine Rs. 40 each or in default to undergo simple imprisonment for three weeks.

The owner and agent of Ramdass Bhawanji's Pure Angarpathra colliery were prosecuted under Section 15 of the Act, read with Regulation

23 (c), for failing to appoint a qualified manager. They were fined Rs. 40 each or in default to undergo simple imprisonment for one month.

For contravention of the same Regulation the owner of Pragji Valabji Doshi's New Chasnala colliery, the owner of the West Raneedih Colliery Company's West Raneedih colliery and the agent of H. S. Zahiruddin's East Barkuhi colliery were prosecuted, and the two latter were fined Rs. 35 and Rs. 50, respectively. As the owner of Chasnala colliery died, the case against him was dropped.

The owner and manager of S. N. Ghosh's Central Begunia colliery were prosecuted under Regulations 24 (c), 67 and 137 for failing (a) to appoint a competent manager in a temporary vacancy, (b) to keep the working places and travelling roads secure and (c) to keep the top of an incline and the edges of subsidences fenced. They were fined Rs. 100 each or in default to undergo rigorous imprisonment for one month.

The owner and manager of M. M. Mukherjee's New Ghusick colliery were prosecuted under Regulation 53 for employing in a mine which had but one outlet persons on work other than that of making a second outlet. The owner was acquitted and the manager was fined Rs. 50 or in default to undergo simple imprisonment for one month.

The owner, agent and manager of Sheikh Shahabuddin and Son's Ghorawari colliery were prosecuted under Regulation 137 for failing to keep an incline properly fenced. The owner and agent were fined Rs. 20 each or in default to undergo one week's rigorous imprisonment; the manager was fined Rs. 2.

The owner and manager of Lala Budhoolal's Upper Ghorawari colliery were prosecuted for employing children in the mine in contravention of Section 26 of the Act. The owner was fined Rs. 30 or in default to undergo simple imprisonment for one week. The manager was acquitted.

The owner and manager of Ramdas Bhawanji's East Dharmaband colliery were prosecuted under Section 15 of the Indian Mines Act and Regulation 121 as follows. The owner for failing to appoint a qualified manager, and the manager for failing to produce adequate ventilation in the mine. The former was fined Rs. 10 and the latter acquitted.

The manager of the Burrakur Coal Company, Limited's Mudidih colliery was prosecuted under Regulations 102, 103 and 105 for permitting loose gunpowder to be issued; for not making proper arrangements for the return of surplus gunpowder and for permitting the preparation of cartridges by unauthorised persons. He was sentenced to a fine of Rs. 35 or in default to undergo simple imprisonment for one week.

For contravention of the same regulations the manager of the Bhulanbararee Coal Company, Limited's Bhulanbararee colliery was prosecuted and fined Rs. 25 or in default to undergo simple imprisonment for one week.

The manager of the Pench Valley Coal Company, Limited's Chandametta colliery was prosecuted under Regulation 92 for failing to provide an additional stopblock or runaway switch on a surface self-acting incline. He was fined Rs. 50.

The owners (two), the agent and manager of B. M. Ganeriwala and Company's Palasthalia colliery were prosecuted under Regulations 24 (3), 25 and 67 for failing (a) to authorise in writing a qualified person to

act as temporary manager, (b) to appoint a sufficient supervising staff, and (c) to maintain the sides of an incline in a safe condition. They were fined Rs. 20 each or in default to undergo simple imprisonment for one week.

The owner and manager of Ramgopal Shewratan Mohta's Kohinoor colliery were prosecuted under Regulations 140, 137 and 138 for failing (a) to maintain a proper fence in a dip gallery which was full of water as a result of which a woman was drowned, (b) to maintain a fence round the cutting of an incline and (c) to maintain gates at certain inclines. The case against the owner was withdrawn and the manager was released on probation of good conduct on his own bond of Rs. 100 to appear and receive sentence when called on within six months.

The manager of J. Sunder Mull and Company's Patrahia mica mine was prosecuted under Regulations 43, 71 and 91 for failing (a) to appoint competent persons to make inspections of the mine and to perform blasting operations and (b) for allowing an excessive number of shots to be fired in one round and in such a manner that a correct count of the shots could not be kept. He was sentenced to a fine of Rs. 150 or in default to undergo rigorous imprisonment for three months.

Prosecutions were instituted under Regulation 17 for failure to submit plans of abandoned or discontinued workings of mines, as follows:—

- (a) Of the four owners of the Luxmi Coal Company's Bhandaridih colliery, three were fined Rs. 4 each and one Rs. 8.
- (b) Proceedings against the owner of Bepin Behari Ghosh's Rampur colliery and Sridhar Chowdhury's North Singaran colliery were dropped as the accused could not be traced.

Nineteen prosecutions were instituted for failure to submit annual returns within the prescribed time. In seven cases fines aggregating Rs. 281 were imposed. Twelve cases were withdrawn. In three of the cases the accused had died.

Information was received of the following prosecutions instituted by mine officials against subordinates:—

The manager of Gagala Subrahmanyan Naidu's Bhupatri mica mine prosecuted two miners under Regulation 82 for tampering with old shot holes. One of the men was fined Rs. 50 or in default to undergo simple imprisonment for one month, and the other was acquitted.

For contravention of the same regulation the manager of Mr. W. C. Tom's Debi Chaung mine prosecuted three miners. One miner was fined Rs. 15 or in default to undergo rigorous imprisonment for one week, and the case against the other two was dropped as they could not be traced.

For contravention of the same regulation the manager of the Tirody Manganese Ore Company, Limited's Tirody mine prosecuted two miners who were fined Rs. 20 each or in default to undergo rigorous imprisonment for one week.

The manager of the Bengal Bhatdee Coal Company, Limited's Bhatdee colliery prosecuted a sirdar under Regulation 144 for leaving a position of trust in the course of his shift without permission. He was fined Rs. 20.

The manager of the Kharkhari Colliery Company, Limited's Kharkhari and Moheshpur collieries prosecuted two miners under Regulations

82 and 148 for breaking down a fence and cutting the side of a pillar beyond the fence, thereby causing the pillar to collapse and kill a woman. They were each sentenced to three months' rigorous imprisonment.

For contravention of the same regulations the manager of the Bhulanbararee Coal Company, Limited's Bhulanbararee colliery prosecuted a miner. The case was dropped as the accused could not be traced.

The manager of the Equitable Coal Company, Limited's Bejdih colliery prosecuted a gomasta of the raising contractor and a banksman under Section 40 (1) of the Indian Mines Act, 1923, read with Special Rules 13 and 5 and Special Rules 68 and 69, read with Special Rule 23. The banksman for signalling to the engine driver for the cage to be raised without having received a signal permitting the cage to be raised, and the gomasta for intimidating the banksman. Both the accused were acquitted.

The manager of the Bengal Coal Company, Limited's Murulidih colliery prosecuted an overman under Regulation 70 for failing to make an inspection of a gallery previous to commencement of work, neglect of which resulted in an ignition of fire-damp and loss of life. He was fined Rs. 70 or in default to undergo rigorous imprisonment for one month.

The manager of the Burrakur Coal Company, Limited's Saltore colliery prosecuted a miner under Regulations 82 and 84 for working in a place without permission, with the result that a fatal accident occurred. He was fined Rs. 30 or in default to undergo rigorous imprisonment for one month.

The manager of the Tirody Manganese Ore Company, Limited's Tirody mine prosecuted a trammer for allowing a tub to get out of control. He was fined Rs. 10.

The manager of the Assam Railways and Trading Company, Limited's Namdang colliery prosecuted a sirdar under Regulations 144 and 70 (5) for deputing another to make an inspection before a shift and for reporting having made it himself. He was fined Rs. 20 or in default to undergo simple imprisonment for one week.

The manager of the Central Provinces Manganese Ore Company, Limited's Gumgaon mine prosecuted two miners under Regulations 89 and 91 for entering the danger zone during blasting operations. They were fined Rs. 5 each.

The manager of the Bhulanbararee Coal Company, Limited's Bhulanbararee colliery prosecuted two banksmen under Regulations 142, 146, 147 and Special Rule 78 for (a) not closing the stop-block at the top of a haulage dip, and (b) improperly interfering with the runaway switch. One of the men was fined Rs. 5; the other could not be traced.

The agent, manager and overman of Linton's Angarpathra Colliery were prosecuted under Regulations 67, 140 (1) and 146; the agent and manager for failing to maintain in a secure condition the roof of a working place in an incline, and the overman for (1) not taking steps to fence a place which he knew to be dangerous and (2) omitting to take the necessary precautions for the safety of the mine and persons employed therein. The agent and manager were fined Rs. 200 each or in default to suffer simple imprisonment for one month and the overman was sentenced to one month's simple imprisonment and a fine of Rs. 100. On appeal the case was remanded for retrial when each of the accused was fined Rs. 150.

### ADDITIONS TO THE ACT.

In pursuance of clause (1) of Regulation 15 of the Indian Metalliferous Mines Regulations, 1926, the Government of India, Department of Industries and Labour, issued Notification No. M-1055, dated 15th December 1927, directing that the provisions of Chapter II of the said Regulations in respect of plans shall apply to certain mica mines. The notification is reproduced in Appendix IV, Statement No. 3.

In notification No. M-1051, dated 23rd November 1927, the Government of India, Department of Industries and Labour, published certain amendments in the schedule to Notification No. M-1051, dated 23rd December 1926 in respect of the exemption, partially or wholly, of mines from the operation of the Indian Mines Act, 1923. The notification is reproduced in Appendix IV, Statement No. 4. The original notification, dated 23rd December 1926 was reproduced in Appendix IV to the report for the year 1926.

For general information Notification No. M-987, dated 26th January 1927, issued by the Government of India, Department of Industries and Labour, is reproduced in Appendix IV, Statement No. 5. It contains the names of those educational institutions that have been approved by the Governor-General in Council for the purposes of Regulations 34, 35 and 39 of the Indian Coal Mines Regulation, 1926.

In Appendix IV, Statement No. 6, is reproduced Notification No. M-987, dated 2nd March 1927, by the Government of India, Department of Industries and Labour, approving, for the purposes of Regulation 33 of the Indian Coal Mines Regulations, 1926, (a) the St. Andrew's Ambulance Association, Glasgow, and (b) the United States of America Bureau of Mines, Washington.

### Section V.—General Remarks.

#### EDWARD MEDALS FOR BRAVERY IN MINES.

At Tikak colliery on 20th August 1927 the Commissioner, Assam Division, presented Edward Medals (in bronze) to Bhikam Sirdar and Kristo Kamar for the gallant rescue work done by them at Tikak colliery, as related on pages 20-23 and 33 of last year's annual report.

#### HEALTH AND SANITATION.

The Asansol Mines Board of Health held twelve ordinary and six special meetings during the year. Dr. J. W. Tomb, the Chief Sanitary Officer, reported that there were 288 cases of cholera with 120 deaths and 542 cases of small-pox with 72 deaths during the year, as compared with 991 cases of cholera with 570 deaths and 1,737 cases of small-pox with 196 deaths during the previous year. Where cholera occurred the Board's staff carried on the various routine measures of disinfection and administered the Essential Oils Cholera Prophylactic daily to all contacts in infected houses, with the result that the disease was held in check and remained confined to the localities where it originated. During the past 5 years amongst 12,756 house contacts protected with the Essential Oils mixture only 11 developed this disease. The Board's anti-malarial staff carried out the annual mosquito and malaria survey of the Settlement,



and by the cleansing and draining of infested tanks malaria where it appeared was quickly suppressed. The general health of the Settlement was good, the death rate being 16.62 per 1,000 and the infant mortality rate 133.1.

The Jharia Mines Board of Health held twelve ordinary and three special meetings during the year. Dr. G. W. Thompson was the Medical Officer of Health up to the 6th March 1927, when he proceeded on 18 months' leave prior to retirement. For the excellent work he has done since his appointment in 1915 the well-earned distinction of Commander of the British Empire was conferred upon him. Dr. J. N. Mitra officiated as Medical Officer of Health during the remainder of the year. Within the Settlement there were 391 cases of suspected cholera which resulted in 83 deaths, as compared with 691 cases and 163 deaths during the previous year. The total deaths from cholera on collieries amounted to 12 only as against 37 in the preceding year. There were 1,492 cases of suspected small-pox which resulted in 58 deaths, as against 1,174 cases with 70 deaths in the previous year. The death rate was 16.73 per 1,000 and the birth rate 33.74 per thousand, as against 17.02 and 35.30 per 1,000, respectively, during the previous year. In the Board's laboratory 910 samples of food were analysed and 483 samples were found to be more or less adulterated. Prosecutions were instituted in the worst cases.

The beneficial results of the work carried on by the Asansol and Jharia Mines Boards of Health and by the Jharia Water Board are well known. From the public health point of view the Settlements are bright spots in the two provinces, and within the Settlements it is remarkable how much less disease there is at the collieries than in the surrounding villages. In the past mineowners have looked upon the taxation involved as a reasonable insurance against the shortage of labour which an epidemic may cause. In the present depressed condition of the coal industry, however, it has been considered necessary to reduce expenditure, and it has fortunately been found possible to do so without reducing to any considerable extent the beneficent activities of the Boards. Any further reduction, however, would involve an unjustifiable risk to the health of the mining community.

One of the major improvements effected in the Jharia coalfield has been the provision of a pure water supply. From the Topchanchi reservoir, 16 miles distant, 1½ million gallons of water are supplied daily to all collieries of importance. To local bazaars more than 100,000 gallons per day are supplied free of charge.

Statistics of rainfall in the eastern coalfields have been recorded as follows:—

	1927.	1926.
<i>Jharia Coalfield—</i>		
Jealgoma . . . . .	45.70	59.01
Topchanchi reservoir . . . . .	54.89	56.88
<i>Raniganj Coalfield—</i>		
Kulda . . . . .	48.65	53.88
<i>Girdih Coalfield—</i>		
Girdih . . . . .	43.63	46.71

### AMBULANCE WORK IN THE COALFIELDS.

Classes in First aid to the injured were held at 45 centres in the Jharia coalfield. 940 students attended and 657 St. John Ambulance Association First-Aid certificates were awarded. There were 32 lecturers all of whom are doctors employed by mining firms. The examinations were conducted by Lieutenant-Colonel R. H. Price, I.M.S. (Retired), Drs. L. G. deRosario, F. T. Simpson and H. K. Chakraborty.

Similar classes were held at 14 centres in the Raniganj coalfield. 286 persons attended the classes. 241 were examined and 210 obtained certificates. The lectures were given by colliery doctors, and the examinations were conducted by Drs. P. C. Biswas, J. K. Bose, Md. N. Huq, B. Sen Gupta, S. N. Majhi, P. K. Mukherjee, Nurulatta and S. P. Chatterjee. The thanks of the mining community are due both to the lecturers and the examiners.

### MINING EDUCATION.

The first session of the India School of Mines terminated on the 31st October 1927. 51 students were enrolled at the commencement of the session, and of that number 46 were successful in passing the sessional examinations. 49 students were enrolled for the first-year class and 41 students for the second-year class. The mine surveying camp was pitched at Bhowra colliery in the Jharia coalfield in December, and the second-year students spent the whole period in surveying a portion of the workings of that mine. During the camp period visits of inspection were paid to the coke plant and power station at Bhowra colliery and also to Amlabad colliery. The main geological features in the neighbourhood of the camp were also examined. During the long vacation students of the first-year were placed in mines in various parts of India for practical training. Most of these students were placed in coal mines, but some were placed in manganese, salt and mica mines.

The Principal of the Bengal Engineering College has reported that in the examination for the diploma in the principles of mining held in March 1927, 13 students appeared and all were granted diplomas. In the junior course six students were enrolled and all qualified for promotion to the senior course. Ten students entered the preliminary or preparatory class and seven were promoted. The annual mining camp was pitched at Sibpur colliery in the Raniganj coalfield in December, but only nine students attended. The usual courses of practical work were undertaken and visits of inspection were paid to various plants and appliances of technical interest in the vicinity.

The three-year courses of instruction were continued at the lecture centres at Raniganj and Sitarampur in the Raniganj coalfield, and Jharia and Sijua in the Jharia coalfield. In the Raniganj coalfield the teaching staff was Mr. L. Millar assisted by Babus Nirmal Chandra Sarkar and Debendra Nath Sarkar. In the Jharia coalfield Mr. Griffith Jones was assisted by Babus B. K. Palit and T. Palit. The number of students enrolled was 137, of whom 64 attended the sessional examination and 11 passed the annual examination. Dr. D. Penman and Mr. W. Kirby were the examiners. Courses of ten lectures in Hindi to overmen and sirdars were delivered at six centres in the Jharia coalfield and in one centre (Mugma) in the Raniganj coalfield. A total of 461 students attended the lectures. The lecturers were Babus S. K. Bhattachari,

A. C. Banerji, B. K. Bose, P. E. Chakrabarti, M. B. Roy, S. K. Ghosh and P. Chakraverti. Similar lectures in Bengali were delivered at six centres in the Raniganj coalfield, and 150 students attended. The lecturers were Babus J. G. Banerji and D. P. Nag. Special instruction in gas testing was given in the vernacular by the Mining Lecturer at the Jharia and Sitarampur centres.

In the Pench Valley coalfield in the Central Provinces five students passed the third-year examination and thus completed the course of instruction. Mr. G. O. Burgoyne, the Lecturer in Mining, reports that "new applicants of the right sort for apprenticeship at the collieries have become rare", and that "unless the coal mining industry takes a turn for the better, the class will not continue to justify its existence".

#### MINING AND GEOLOGICAL INSTITUTE OF INDIA.

The total membership including subscribers of the Mining and Geological Institute of India at the close of the year was 332. In addition to the annual meeting three ordinary general meetings were held for the reading and discussion of papers. Illustrated lantern lectures were delivered by Mr. J. W. Case and Dr. L. L. Fermor. Mr. Case's lecture on "Machine Mining in India" was given at Dhanbad, and Dr. Fermor's lecture on "A Geological excursion in the Canary Islands" was given in Calcutta. A visit was paid to Messrs. Bird and Company's Union South Jute Mills and a geological excursion was conducted by Dr. C. S. Fox in the north-eastern part of the Jharia coalfield.

Four parts of the transactions were published, and the Government prize for the best paper published during the year was awarded to Mr. F. L. G. Simpson for his paper "Further Note on the Ventilation of British Mines". Mr. F. L. G. Simpson also received the Institute's gold medal for the same paper. The Institute's silver medal was awarded to Mr. C. H. Pitt for his paper "Salt Mining in the Punjab", and the bronze medal to Dr. A. W. G. Bleeck for his two papers (1) "A study of tertiary folds, fold-faults and other faults and their relative importance for the accumulation and storage of Petroleum, with particular reference to Burma", and (2) "Crooked Holes resulting from Rotary Drilling Methods on Oilfields".

Towards the end of the year Mr. G. C. Leach was nominated to replace Mr. E. H. Robertson on the Governing Body of the Indian School of Mines, the latter gentleman being absent on leave out of India. Mr. J. Thomas continued to act as the representative of the Institute on the Coal Dust Committee. He was also appointed to represent the Institute on the Council of the Institute of Fuel, London. Two official delegates, Mr. G. V. Hobson and Mr. B. Starks Field, attended the second (trienial) Empire Mining and Metallurgical Congress held in Canada, and represented the Institute on the Empire Council of Mining and Metallurgical Institutions.

#### THE ASSOCIATION OF COLLIERY MANAGERS IN INDIA, THE INDIAN MINE MANAGERS ASSOCIATION AND THE INDIAN COLLIERY EMPLOYEES ASSOCIATION.

During the year the subjects dealt with by the Association of Colliery Managers in India were (1) disposal of mining leases by auction or tender,

(2) draft bye-laws under the Indian Mines Act, (3) proposed restrictions of the employment of women in mines, (4) registration of births and deaths, (5) representation on the Asansol and Jharia Mines Boards of Health, (6) exemption of certain mines from the operation of the Indian Mines Act. On 28th February 1927 the members paid a visit to the Indian Iron and Steel Company's Works at Hirapur, Asansol.

The membership of the Indian Mine Managers' Association increased from 103 to 126. The business transacted during the year included (a) the opening of a branch of the Association in the Raniganj coalfield, (b) consideration of the proposed restrictions of the employment of women in mines, (c) consideration of the draft code of bye-laws for coal mines, (d) enquiries in respect of the penalties imposed on the owners of coal mines for overloading coal wagons and in respect of the pilferage of coal during transit, (e) proposals for the reduction of transshipment charges at railway weighbridges, (f) consideration of proposed amendments to the Indian Boiler Regulations, 1924. Representatives of the Association regularly attended the monthly meetings of the Railways and Collieries Advisory Committee and the Motor Vehicles Advisory Committee.

About the year 1922 an association named the Indian Colliery Employees Association, Jharia, was formed. The original members consisted of a number of clerks who were anxious to improve their conditions of employment at collieries in the Jharia coalfield. For some years the progress made was small, but since 1926 the association has grown in numbers and importance, and it now employs three whole time workers. According to the published annual report for 1927 the total membership is about 2,000 of which 1,500 are miners. The rates of subscription vary from four annas per month to one pice per week. At the end of the year the Association had not been registered under the Indian Trades Union Act, 1926, but arrangements for registration were said to be in progress. The Association is affiliated to the All Indian Trade Union Congress, and it is understood that the next meeting of the Congress will be held at Jharia. The Secretary and Treasurer, Sriyut Prabodh Chandra Bose, was appointed as one of the advisers to the Indian delegation at the International Labour Congress to be held at Geneva in 1928.

#### MINING BOARDS IN BENGAL, BIHAR AND ORISSA AND THE CENTRAL PROVINCES.

The Bengal Mining Board held one meeting during the year. Among the subjects discussed at the meeting and by correspondence were (a) proposed amendments of the Indian Mines Act, 1923, (b) draft regulations under the Indian Mines Act restricting the employment of women in mines, (c) draft rules under the Bengal Mining Settlements Act, (d) proposals to dispose of mining concessions by auction or tender, and (e) abstract of the Indian Mines Act, 1923, and of the regulations and rules made under the Act. The non-official members of the Board were Messrs. F. S. Keelan, C.I.E., H. M. Tarlton, Babu Bhudeb Prasanna Mukherjee and Mr. N. N. Mukherjee, M. L. C.

The Mining Board for coal mines, Bihar and Orissa, held one meeting during the year. Among the subjects discussed at the meeting and by correspondence were (a) prescription of abstracts of the Indian Mines Act, 1923, and of the regulations and rules made thereunder, (b) the Indian

Mines (amendment) Bill and (c) draft regulations under the Indian Mines Act for restricting the employment of women in mines. The non-official members of the Board were Messrs. R. G. M. Bathgate, A. L. Ojha, M. L. C., and G. C. Leach.

The non-official members of the Bihar and Orissa Mining Board for mines other than coal were Messrs. G. A. Young and A. D. Robinson. No meetings were held, the business being dealt with by correspondence.

The Central Provinces Mining Board held one meeting during the year. Among the subjects dealt with at the meeting and by correspondence were (a) disposal of mining concessions by auction or tender, (b) bill further to amend the Indian Mines Act, 1923, for certain purposes and (c) draft regulations under the Indian Mines Act for restricting the employment of women in mines. The non-official members of the Board were Messrs. R. S. Davies, L. H. Bartlett and Rai Sahib Mathura Prasad.

#### BOARD OF EXAMINERS.

Twelve meetings of the Board of Examiners were held during the year. The non-official members were Messrs. J. B. Wardlaw, J. Mackie and N. N. Sarkar. The examiners for the first and second class examinations for coal mine managers' certificates were Messrs. C. E. Ashcroft and A. Farquhar, and Messrs. R. Fenwick, J. G. Cunningham, J. Brown and S. M. Chatterjee, respectively. Messrs. J. H. Lang and W. Kirby, Inspectors of Mines, acted as official examiners and Secretary and Assistant Secretary, respectively.

Six first class coal mine managers' certificates of competency were granted in lieu of British certificates of the same class. At the examination for coal mine managers' certificates of competency held at Dhanbad in February, 77 candidates sat for first class and 277 for second class certificates. Four first class and twenty-nine second class certificates were granted.

The examiner for the examination for coal mine surveyors' certificates of competency held at Dhanbad in November was Mr. Alex. R. Roy. Mr. N. Barraclough, Inspector of Mines, acted as official examiner and Secretary. Eighty-six candidates sat for the examination. Twenty-six certificates were granted.

Three hundred and thirty-eight certificates were granted to applicants for coal mine surveyors' certificates of service under Regulation 43 (2).

Nine hundred and twenty-four persons attended examinations for coal mine sirdars' certificates of competency and seven hundred and sixty-nine certificates were granted. Out of 478 holders of sirdars' certificates examined in gas-testing 216 were successful, and their certificates were duly endorsed to that effect.

The following Technical Institutions teaching surveying were approved for the purposes of Coal Mines Regulation 38:—

The Bengal Engineering College in respect of:—

- (1) the Diploma in Mining,
- (2) Certificates of the third-year course in Engineering; and

The Mainamati Survey School in respect of:—

the certificates granted to candidates successful in the Survey Final Examination.

## OFFICIAL DUTIES, 1927.

Mr. R. B. Simpson was Chief Inspector of Mines throughout the year.

Mr. W. Kirby held charge of No. 1 Circle from 1st January to 30th March and from 30th October to 31st December. From 31st March to 29th October he held charge of No. 2 Circle during the absence on leave of Mr. J. H. Lang.

Mr. J. H. Lang held charge of No. 2 Circle from 1st January to 30th March and from 30th October to 31st December. He was on leave out of India from 31st March to 29th October.

Mr. N. Barraclough was an Inspector of Mines from 1st January to 23rd March and from 5th November to 31st December. He was on leave out of India from 24th March to 4th November.

Mr. H. M. Mitra was Electric Inspector of Mines throughout the year.

Mr. G. S. Cameron was Junior Inspector of Mines, No. 1 Circle, from 1st January to 30th March and from 30th October to 31st December. He officiated as Inspector of Mines, *vice* Mr. J. H. Lang on leave, and held charge of No. 1 Circle from 31st March to 29th October.

Mr. N. G. Chatterjee was a Junior Inspector of Mines throughout the year.

Mr. J. F. Waters was a Junior Inspector of Mines throughout the year.

Mr. H. K. Chatterjee was a Junior Inspector of Mines throughout the year. He was on leave from 12th to 15th October.

Mr. A. Young joined the service as a Junior Inspector of Mines on 13th March.

Since the year 1923 the number of coal mines being worked has decreased from 942 to 644, and the number of metalliferous mines at work has increased from 601 to 1,324.

During the year 1,104 mines were inspected and many of them several times. 2,403 separate inspections were made. The cause and circumstances of practically all fatal accidents and serious accidents of importance, and all complaints of breaches of rules were investigated. As in other years many inspections were made on the invitation of mine-owners, superintendents or managers desirous of obtaining advice on safety matters.

Orders were issued as follows:—

Section, Regulation or Rule.	No. of orders.
Under Section 19 (2)	1
Under Coal Mines Regulation 28	12
Under Coal Mines Regulation 76 (2)	18
Under Rule 14-A of the Rules made by the Governments of Bengal and Bihar and Orissa.	10

Exemptions, partial or complete, and permissions were granted as follows:—

Regulation.	No. of cases.
Under Coal Mines Regulation 58 (6)	2
" " " " 88	2
" " " " 123	1
" " " " 136	8
" Metalliferous Mines Regulations 76 and 96	All salt mines in the Punjab.

Information was received of eleven underground fires in mines, eight collapses of workings and three irruptions of water.

The number of original cases under the Land Acquisition (Mines) Act, 1885, at the end of 1927 stood at 558, twenty of which were cases disposed of during the year. There were thirty-six applications for modifications of restrictions and eleven complaints of violations of restrictions, all of which were dealt with. The Act applies to Bengal and Bihar and Orissa only. In other provinces where Government owns the minerals, Local Governments were advised as to the restrictions necessary in cases where mineowners have sought permission to work minerals beneath railways, villages, etc.

I have the honour to be,

SIR,

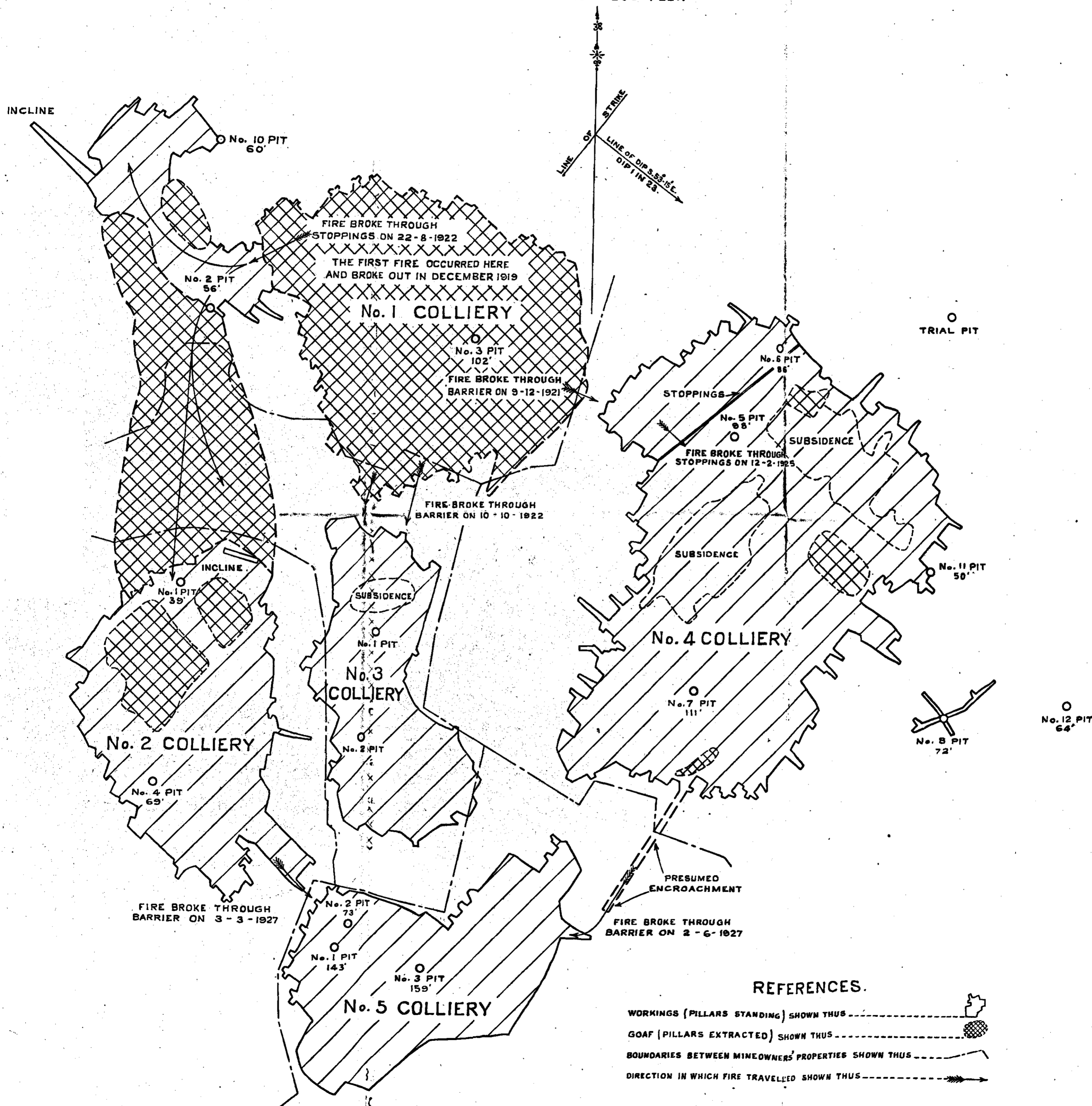
Your most obedient servant,

R. R. SIMPSON,

*Chief Inspector of Mines in India.*

PLAN SHOWING HOW A FIRE CAUSED BY SPONTANEOUS COMBUSTION IN A COAL MINE PASSED THROUGH BARRIERS OF COAL AND SPREAD TO FOUR ADJACENT MINES

SCALE 1 INCH=200 FEET.

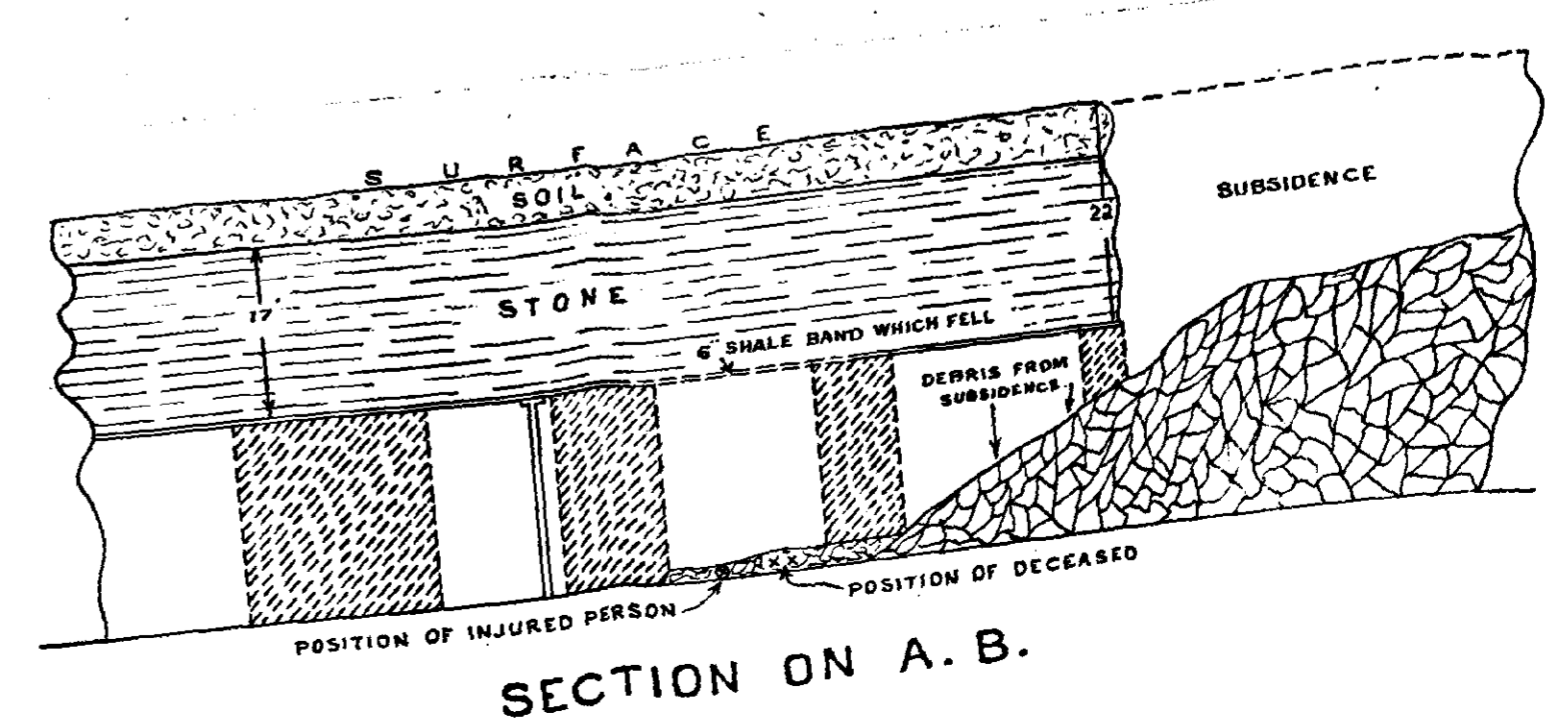
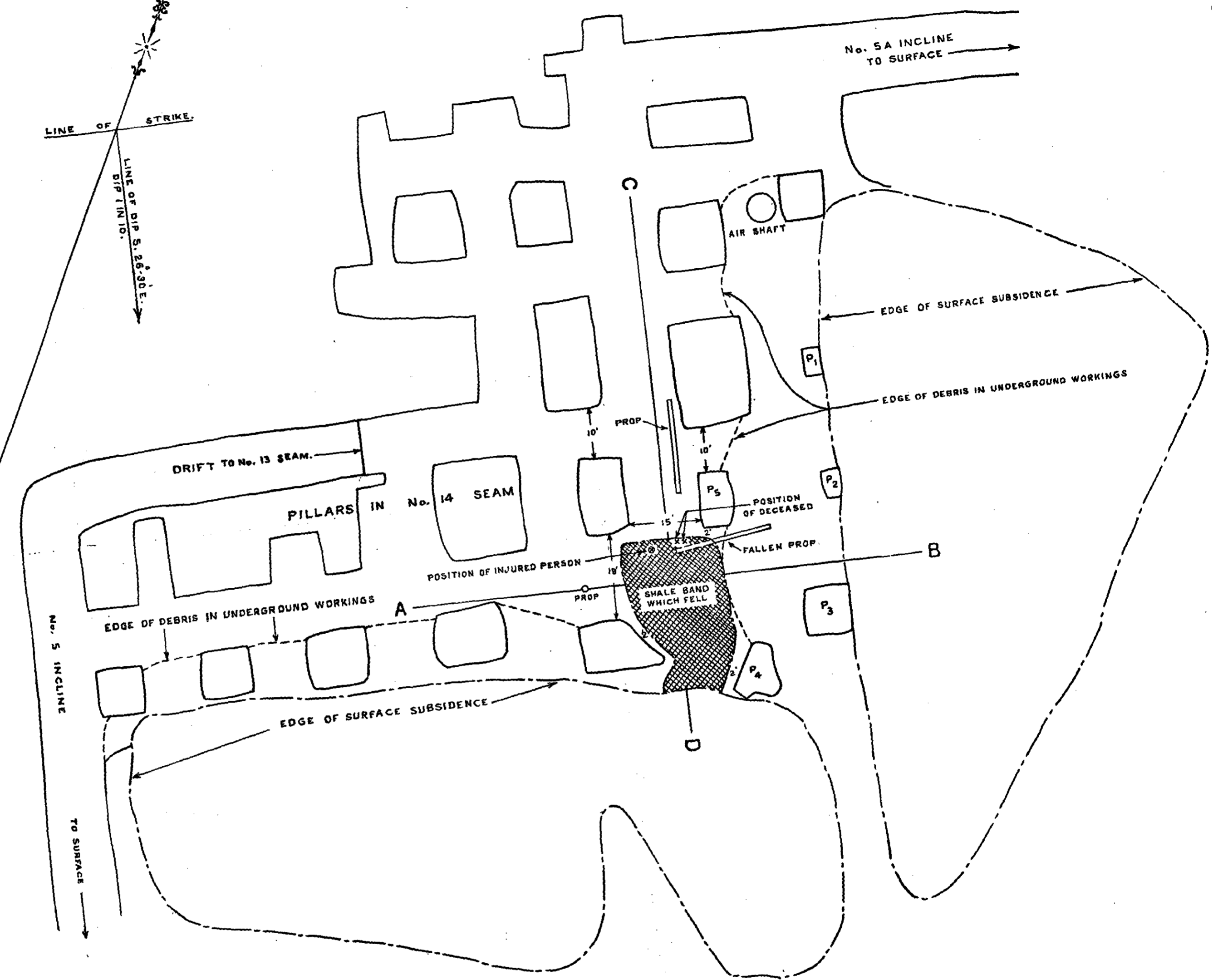
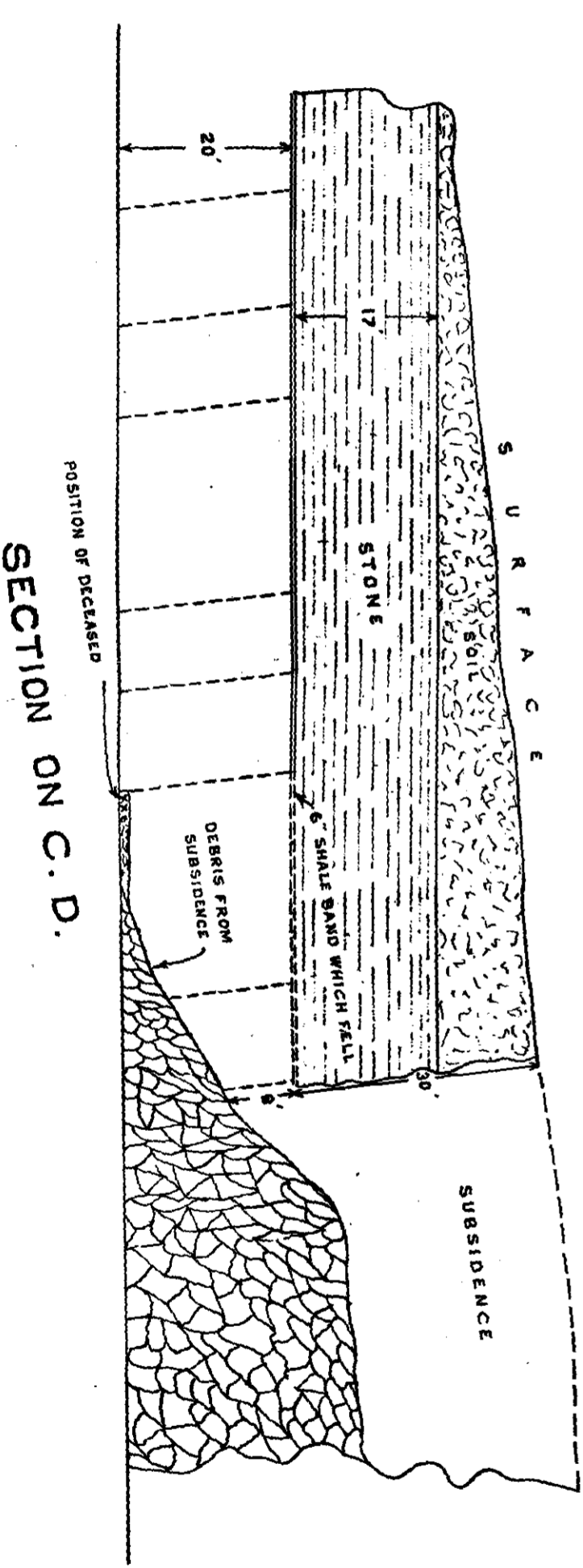
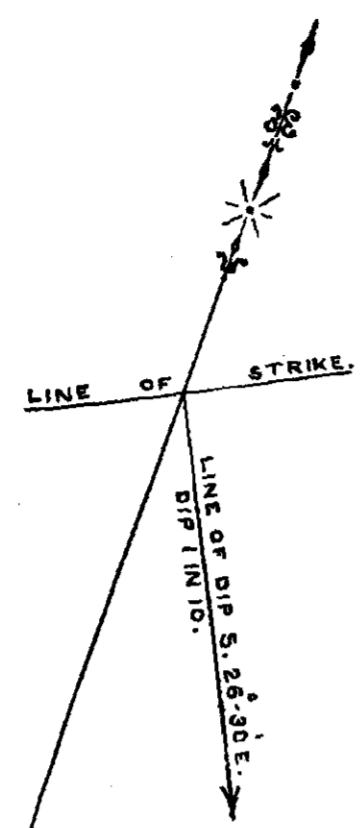


REFERENCES.

- WORKINGS (PILLARS STANDING) SHOWN THUS
- GOAF (PILLARS EXTRACTED) SHOWN THUS
- BOUNDARIES BETWEEN MINEOWNERS' PROPERTIES SHOWN THUS
- DIRECTION IN WHICH FIRE TRAVELLED SHOWN THUS

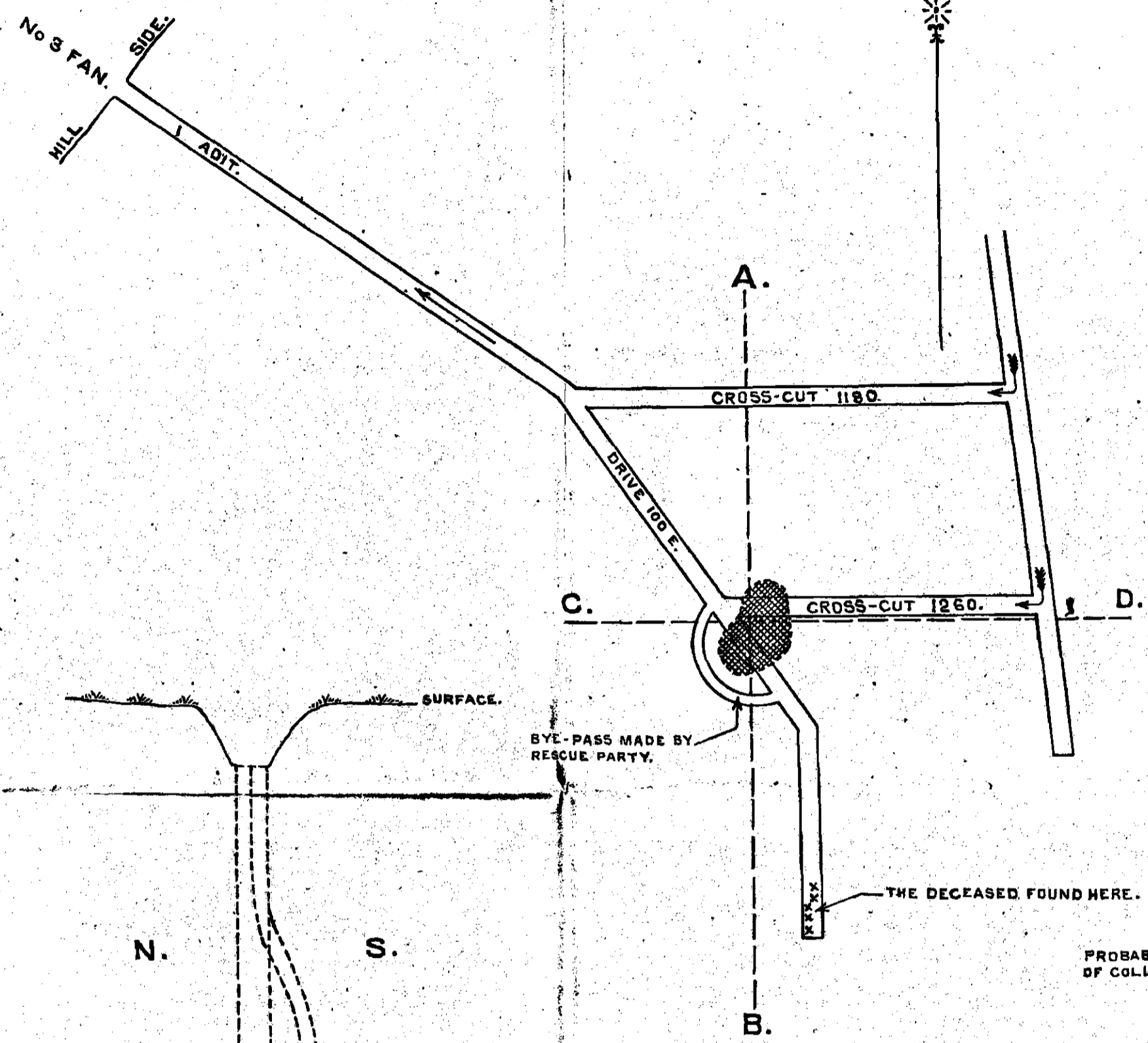


PLAN AND SECTIONS ILLUSTRATING REPORT ON  
 FATAL ACCIDENT BY FALL OF ROOF  
 AT  
 LINTONS ANGARPATRA COLLIERY LTD'S ANGARPATRA MINE.  
 SCALE 1 INCH = 20 FEET.

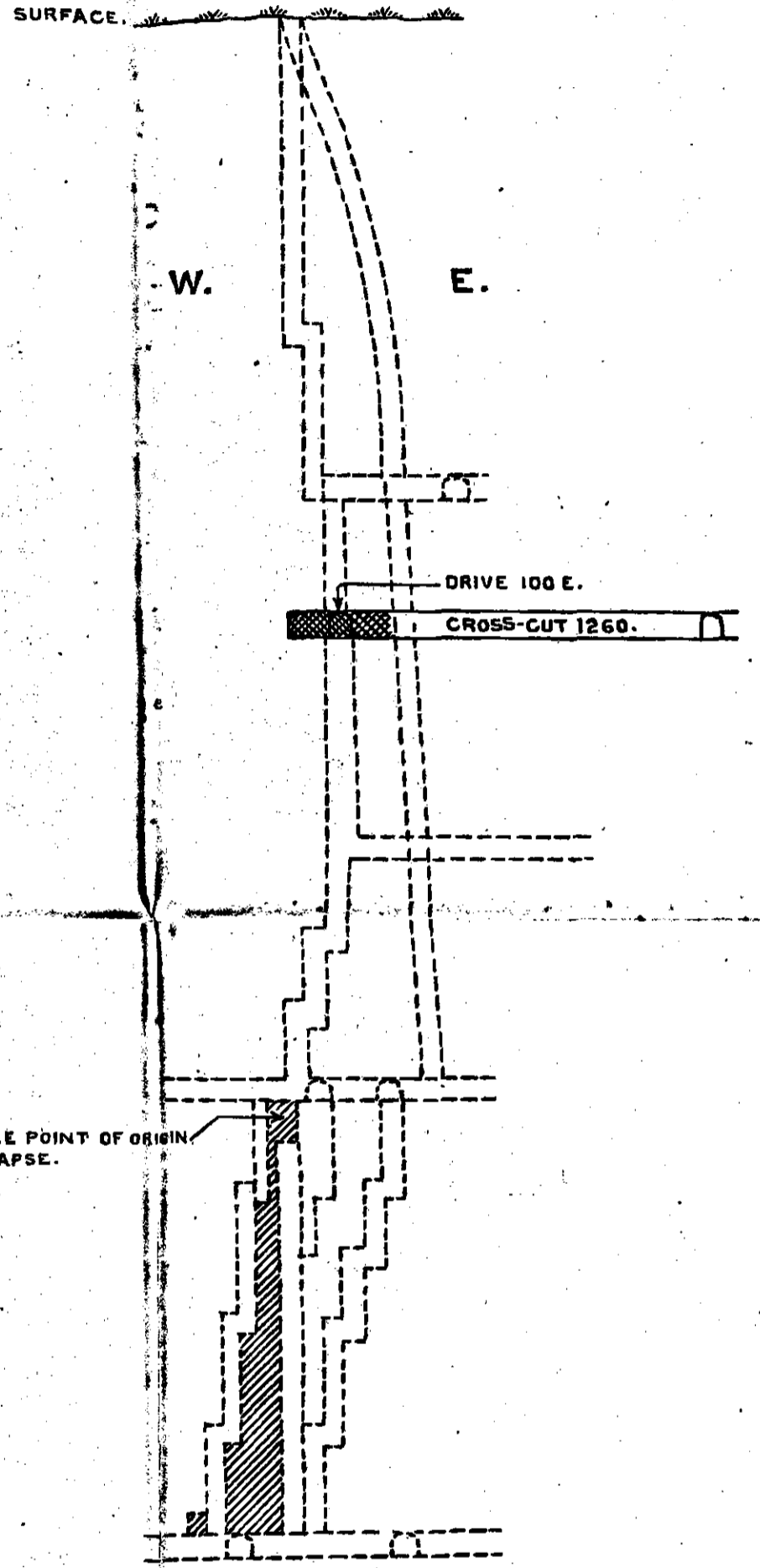


# PLAN AND SECTIONS ILLUSTRATING REPORT ON FATAL ACCIDENT BY SUFFOCATION BY GASES AT THE BURMA CORPORATION LTD'S BAWDWIN MINE.

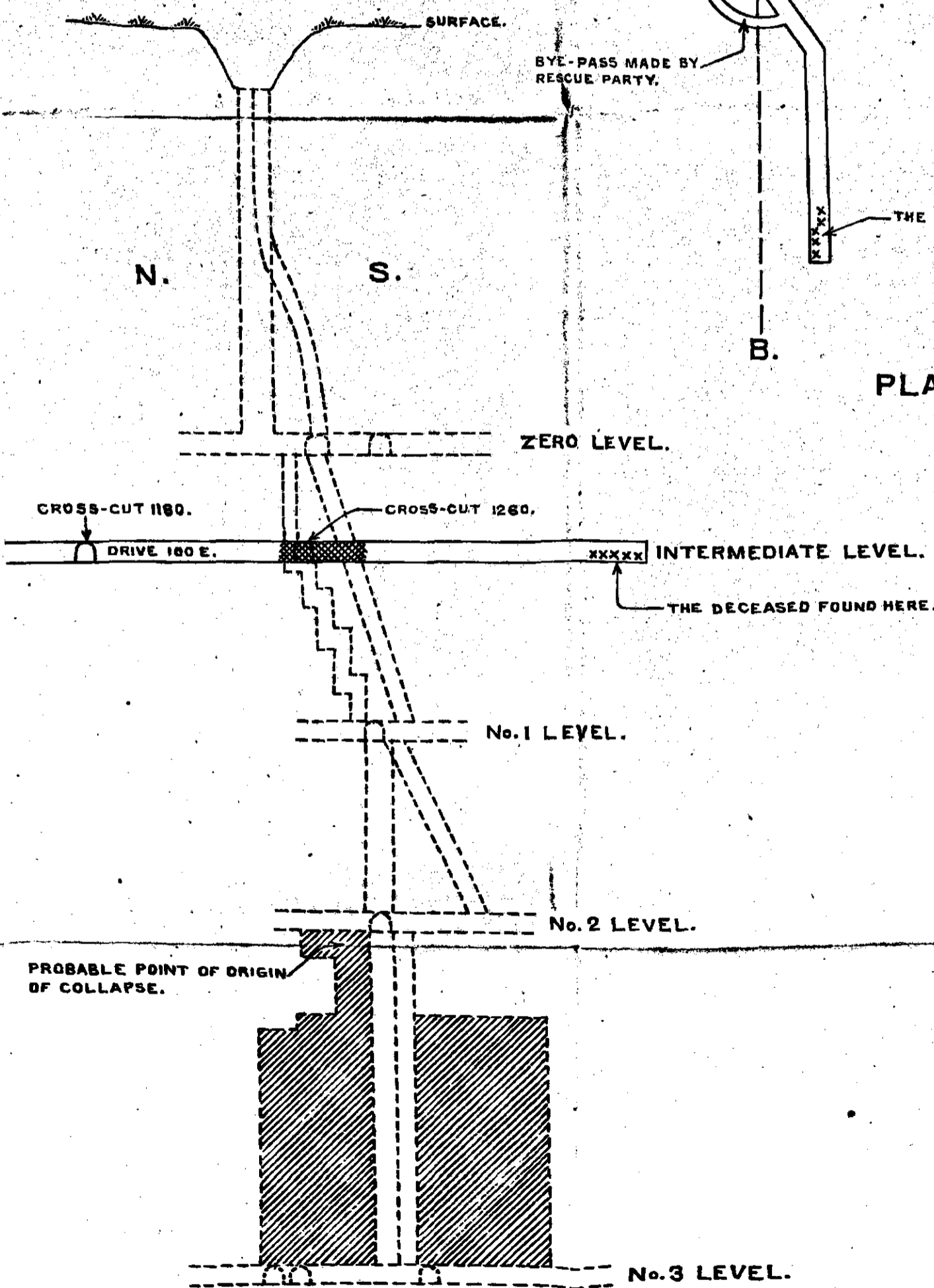
SCALE 1 INCH = 50 FEET.



PLAN.



SECTION ON C. D.



SECTION ON A. B.

### REFERENCES.

- Direction of aircurrent shown on Plan thus*
- Caved Ground shown thus*
- Dotted Lines indicate Excavations in Fire Area, inaccessible at the time of the accident.*
- Hatching on Sections indicates stoped out ground of which the top portion was not completely filled owing to the outbreak of fire.*

## STATISTICS OF MINES

Table  
Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of							Total Males and Females.	
			Underground.						Total Males.		Females.
			Males.								
Ore-men and Sicdars.	Coal-cutters.	Lancers.	Other skilled labour.	Other unskilled labour.	Total Males.						
Assam	Lakhimpur . . . . .	371,230	86	233	379	375	660	1,695	84	1,779	
	Naga Hills . . . . .	51,207	20	72	79	114	71	356	...	356	
	Total . . . . .	322,517	116	355	358	489	731	2,051	84	2,135	
Baluchistan	Quetta-Pishin . . . . .	7,311	10	41	40	1	7	99	...	99	
	Sibi-Khost . . . . .	1,734	9	44	27	...	4	84	...	84	
	Total . . . . .	3,945	19	85	67	1	11	183	..	183	
Bengal	Bankura, Raniganj . . . . .	3,069	5	36	3	3	20	68	35	101	
	Birbhum . . . . .	...	...	...	...	...	...	...	...	...	
	Burdwan . . . . .	5,548,931	824	11,240	1,803	2,007	3,740	20,573	3,307	23,840	
	Total . . . . .	4,554,990	829	11,276	1,804	2,070	3,760	20,639	3,308	23,941	
Bihar and Orissa.	Hasaribagh—										
	Bokaro . . . . .	1,790,594	20	347	21	77	98	508	137	700	
	Giridih . . . . .	655,263	191	3,124	1,001	211	715	6,243	1,363	7,604	
	Jharia . . . . .	53,984	13	183	30	35	44	254	117	371	
	Karanpura . . . . .	303,014	5	117	13	43	20	198	33	230	
	Ranigarh . . . . .	340	...	...	...	...	...	...	...	...	
	Mandhum—										
	Jharia . . . . .	10,520,553	1,376	16,430	2,018	3,019	5,138	29,778	15,323	45,106	
	Raniganj . . . . .	849,085	187	2,423	329	424	1,137	4,469	1,503	5,993	
	Falamu, Dallonganj Hutar . . . . .	709	1	7	4	...	...	...	13	13	
Fambalpur, Hingir-Rampur . . . . .	26,495	4	30	13	39	...	105	40	151		
Carried over . . . . .	14,308,377	1,787	22,649	5,313	4,768	7,142	41,629	19,419	60,158		

**DIX I.**  
**AND MINERALS.**

**No. I.**  
**year 1927 at mines under the Indian Mines Act.**

persons employed daily in and about the mines.

Openers and Siders.	Open workings.							Total Underground and Open workings.	Surface.						Grand Total.
	Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
A.L.															
10	57	60	123	271	520	195	715	2,484	65	203	480	744	131	875	2,900
...	...	...	...	...	...	...	...	355	20	109	107	206	1	209	683
10	57	60	123	271	520	195	715	2,850	68	318	658	2,040	132	1,179	4,022
...	...	...	...	...	...	...	...	90	...	...	34	34	...	34	183
...	...	...	...	...	...	...	...	64	...	34	...	34	...	34	118
...	...	...	...	...	...	...	...	163	...	34	34	68	...	68	251
1	3	...	...	4	8	6	14	115	...	13	5	28	16	44	159
...	...	...	3	...	2	2	4	4	...	2	4	6	1	7	11
8	163	14	38	221	444	419	863	29,708	1,403	3,278	5,568	10,250	4,053	14,412	44,116
9	166	14	40	225	454	437	891	29,622	1,504	3,292	5,597	10,298	4,070	14,468	44,265
68	3,501	1,416	202	2,455	7,642	4,206	11,848	12,845	125	447	1,343	1,915	305	2,291	14,839
4	125	78	4	107	408	50	458	2,052	89	101	955	1,335	483	1,718	2,970
...	8	...	...	3	11	6	17	286	38	47	107	192	78	270	628
4	340	50	39	230	653	319	972	1,202	61	108	217	406	160	606	1,768
...	5	8	...	23	38	...	36	86	2	1	2	5	...	5	41
42	510	104	45	157	859	469	1,328	49,460	1,971	5,223	11,043	19,238	6,896	25,132	71,562
11	71	16	23	27	187	97	284	6,246	316	800	1,191	1,916	973	2,689	8,935
...	...	...	...	...	...	...	...	12	...	1	6	7	10	17	29
...	...	...	...	...	...	...	...	151	...	62	...	62	11	73	224
120	4,800	1,672	303	3,103	9,766	5,171	14,937	75,095	2,522	6,560	14,864	22,975	8,686	31,661	107,796

APPEN  
STATISTICS OF MINES

Table  
Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of								
			Underground.								Total Males and Females.
			Males.							Females.	
			Overman and Sidemen.	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.			
Bihar and Orissa.	Brought forward	14,388,377	1,767	22,642	5,313	4,768	7,143	41,039	18,619	60,159	
	Sonthal Parganas--										
	Jainty	56,724	14	145	20	55	54	289	33	321	
	Raniganj.	67,981	18	293	7	46	63	307	61	429	
	Rajmahal.	...	...	...	...	...	...	...	..	...	
Total	14,493,062	1,797	23,030	5,340	4,869	7,266	42,294	18,613	60,907		
Central Provinces.	Betal	6	...	...	..	...	...	...	...	...	
	Chanda, Ballaspur	168,617	30	729	360	110	237	1,476	123	1,609	
	Chhindwara, Pench Valley	504,913	60	1,185	190	234	332	1,863	901	2,763	
	Narsinghpur, Mohpani	..	...	...	...	...	...	...	...	...	
	Yeotmal	2,322	6	15	20	40	60	151	18	169	
Total	686,768	96	1,919	560	386	529	3,500	1,043	4,541		
Punjab.	Jhelum	39,645	28	225	41	44	196	334	...	334	
	Mianwali	15,465	4	30	22	4	13	73	...	73	
	Shahpur	7,671	...	22	...	...	...	32	...	32	
	Total	62,781	32	277	63	48	199	380	...	380	
	Grand Total (Coal) for 1927.	31,109,976	3,901	36,963	8,313	6,763	12,458	69,315	24,641	97,356	
	Ditto of preceding year.	30,093,024	3,093	37,916	9,991	8,943	13,631	70,374	26,493	99,370	
	Differences	+1,016,952	-192	-953	-1,678	-1,180	-1,173	-1,059	-1,852	-2,014	

DIX I—contd.

AND MINERALS—contd.

No. I—contd.

year 1927 at mines under the Indian Mines Act—contd.

persons employed daily in and about the mines.

Open workings.								Total Underground and Open workings.	Surface.					Grand Total.	
Males.						Females.	Total Males and Females.		Males.				Females.		Total Males and Females.
Overmen and Stokers.	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
A.L.—contd.															
122	4,580	1,873	303	3,103	9,706	5,171	14,937	75,005	2,522	6,598	14,864	23,975	8,686	33,641	107,736
...	...	...	...	...	...	...	...	331	23	27	79	123	39	156	477
...	...	...	...	...	...	...	...	428	37	45	76	158	43	201	639
...	...	...	4.	...	...	...	...	...	...	...	...	...	...	...	...
129	4,500	1,873	303	3,103	9,706	5,171	14,937	75,844	2,581	6,661	15,019	24,581	8,737	33,998	106,843
2	2	3	...	...	6	7	13	13	...	...	...	...	...	...	13
...	...	...	3	4	7	...	7	1,006	61	106	333	390	138	533	2,130
...	...	...	...	...	...	...	...	2,783	78	335	514	927	479	2,405	4,189
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	169	6	20	15	41	13	59	222
3	3	23	3	4	13	7	20	4,571	145	461	782	1,359	634	1,993	6,563
...	5	...	...	...	5	...	5	539	58	54	338	348	36	374	913
...	...	...	...	...	...	...	...	73	10	6	125	141	13	154	237
5	44	...	...	...	49	...	49	61	39	...	...	39	...	39	130
5	49	...	...	...	54	...	54	693	106	69	363	538	39	567	1,260
155	4,334	1,743	463	3,803	10,807	5,900	16,707	113,083	4,401	10,639	11,431	37,543	13,002	51,250	165,313
139	4,154	687	368	3,833	9,974	7,111	17,085	115,445	4,636	10,633	24,339	40,348	14,335	54,17	170,928
16	+680	+1,061	+1,02	-28	+1,333	-1,311	+53 3	-1,402	-235	-37	-2,439	-3,700	-1,333	-6,923	-5,416

APPEN  
STATISTICS OF MINES

Table  
Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed							
			Underground.							
			Males.					Total Males.	Females.	Total Males and Females.
			Foremen and Mates.	Miners.	Skilled labour.	Unskilled labour.				
<b>IRON</b>										
Bihar and Orissa	Singhbhum	Tons. 1,007,037	...	...	...	...	...	...		
Burma	Mandalay	...	...	...	...	...	...	...		
	Northern Shan States.	61,062	5	36	...	66	107	107		
	Total	61,062	5	36	...	66	107	107		
Central Provinces.	Drug	182	...	...	...	...	...	...		
	Grand Total (Iron ore) for 1927.	1,068,281	5	36	...	66	107	107		
	Grand Total of preceding year.	600,868	...	...	...	...	...	...		
	Difference	+467,918	...	...	...	...	...	...		
<b>MANGANESE</b>										
Bihar and Orissa	Singhbhum	9,970	...	...	...	...	...	...		
Bombay	Belgaum	4,515	...	...	...	...	...	...		
	North Kanara	4,005	...	...	...	...	...	...		
	Panch Mahals	78,802	3	34	4	5	46	46		
	Total	87,322	3	34	4	5	46	46		

## DIX I—contd.

## AND MINERALS—contd.

## No. I—contd.

year 1927 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.					Grand Total.	
Males.					Females.	Total Males and Females.		Males.				Females.		Total Males and Females.
Foremen and Males.	Miners.	Skilled labour.	Unskilled/ labour.	Total males.				Clerical and supers x v i. sing staff.	Skilled labour.	Unskilled labour.	Total males			
<b>ORE.</b>														
114	1,969	182	841	3,106	1,789	4,895	4,895	321	850	1,456	2,627	898	3,520	8,415
...	...	...	...	...	...	...	...	12	3	68	83	...	83	83
8	...	4	577	589	...	589	696	15	3	390	408	66	474	1,170
8	...	4	577	589	...	589	696	27	6	458	491	66	557	1,353
...	...	...	...	...	...	...	...	...	...	32	32	32	64	64
122	1,969	166	1,416	3,695	1,789	5,484	5,591	348	856	1,946	3,150	991	4,141	9,732
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>ORE</b>														
20	172	22	6	220	181	401	401	11	1	7	19	11	30	491
15	269	28	5	317	198	510	510	1	...	...	1	...	1	511
6	100	10	7	123	15	138	138	18	2	193	208	41	249	387
25	1,703	67	...	1,865	1,412	3,277	3,323	34	64	439	537	191	728	4,051
116	2,072	103	12	2,305	1,620	3,925	3,971	46	66	632	746	232	978	4,949













DIX I—contd.

AND MINERALS—contd.

No. I—contd.

Year 1927 at mines under the Indian Mines Act—contd.

Employed daily in and about the mines.

Open workings.								Total Underground and Open workings.	Surface.					Grand Total.			
Males.				Females.	Total Males and Females.	Males.			Females.	Total Males and Females.							
Foreigners and Males.	Miners.	Skilled labour.	Unskilled labour.			Total Males.	Clerical and supervising staff.				Skilled labour.	Unskilled labour.	Total Males.				
with those for Lead ore.																	
with those for Gold.																	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
I.D.								7	...	3	5	7	3	10	17		
...	...	...	...	...	...	...	237	14	23	90	193	42	174	411			
...	...	...	...	...	...	...	244	16	30	95	189	45	194	438			
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	

**APPEN**  
**STATISTICS OF MINES**

**Table**  
**Number of workers and output of minerals during the**

Province.	District and Mineral field.	Total Output.	Average number of persons employed						Total Males and Females.
			Underground.						
			Males.					Females.	
			Foremen and Mates.	Miners.	Skilled labour.	Unskilled labour.	Total Males.		
Burma		<b>Tons</b>						<b>TIN</b>	
	Mergui . . . . .	1,168	1	11	4	...	16	...	16
	Tavoy . . . . .	1,469	10	888	80	...	928	...	928
	Thabon . . . . .	4	...	...	...	...	...	...	...
	Grand Total (Tin Ore) for 1927.	2,636	11	894	84	...	939	...	939
	Grand Total of preceding year.	2,568	...	...	...	...	...	...	...
Difference . . . . .	+68	...	...	...	...	...	...	...	
Burma		<b>Tons</b>						<b>WOLFRAM</b>	
	Mergui . . . . .	8						Labour figures included	
	Tavoy . . . . .	522							
	Grand Total (Wolfram Ore) for 1927.	530	...	...	...	...	...	...	
	Grand Total of preceding year.	751	...	...	...	...	...	...	
	Difference . . . . .	-221	...	...	...	...	...	...	
Baluchistan		<b>Tons.</b>						<b>CHROMITE</b>	
	Quetta Pishin . . . . .	...	...	...	...	...	...	...	
	Zhob . . . . .	14,534	2	27	...	...	29	...	
Total . . . . .	14,534	2	27	...	...	29	...	29	

DIX I—contd.

No. 3—contd.

output of Coal and Coke, 1927.

		Coke									
Coal despatched to coke factories.	Closing stock.	Opening stock.		Coke made.		Despatches.		Colliery consumption.		Closing stock.	
		Hard.	Soft.	Hard.	Soft.	Hard.	Soft.	Hard.	Soft.	Hard.	Soft.
Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
67,421	77,320	49	259	954	5,221	943	5,449	60	1	...	30
1,227,565	1,169,785	4,147	9,527	39,563	499,162	33,764	497,392	451	1,256	4,495	10,041
...	74,998	1	9,289	...	92,633	1	93,709	...	763	...	1,450
...	...	...	...	...	...	...	...	...	...	...	...
...	240	...	...	...	...	...	...	...	...	...	...
...	2,301	...	...	...	...	...	...	...	...	...	...
...	1,684	...	...	...	...	...	...	...	...	...	...
...	32,450	...	87	...	...	...	27	...	...	...	60
...	...	...	...	...	...	...	...	...	...	...	...
1,294,966	1,376,723	4,197	13,162	40,517	597,016	39,708	596,377	511	2,020	4,495	11,531
...	6	...	...	...	...	...	...	...	...	...	...
...	9,173	...	...	...	...	...	...	...	...	...	...
...	9,408	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...
...	18,537	...	...	...	...	...	...	...	...	...	...
...	1,087	...	...	...	...	...	...	...	...	...	...
...	701	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...
...	1,783	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...
1,294,966	1,778,930	4,245	12,760	42,445	608,612	41,638	606,150	548	2,159	4,504	12,063























## DIX I—contd.

## AND MINERALS—contd.

## No. 1—contd.

year 1927 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings,							Total Underground and Open workings.	Surface.						Grand Total.	
Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.		
Foremen and Males.	Miners.	Skilled labour.	Unskilled labour.	Total Males.				Clerical and supervis- ing staff.	Skilled labour.	Unskilled labour.	Total Males.				
TITE.	3	4	5	10	22	10	32	120	4	4	3	11	...	11	131
	3	...	...	29	32	30	62	62	2	...	6	8	...	8	70
	6	4	5	39	54	40	94	132	6	4	9	19	...	19	201
	...	...	...	40	40	40	80	80	...	...	...	...	...	...	80
	4	34	...	40	73	33	161	163	1	2	8	21	...	11	194
	4	34	...	80	118	123	241	263	1	2	8	11	...	11	274
	...	...	8	12	20	9	29	29	2	...	6	8	6	14	48
	...	...	6	10	16	...	16	19	...	...	...	...	...	...	19
	...	11	...	...	11	8	19	19	...	...	...	...	...	...	19
	...	11	6	10	27	8	35	38	...	...	...	...	...	...	38
	10	49	19	141	219	130	399	512	9	6	28	33	6	44	556
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TE.	16	74	65	58	213	22	235	235	4	3	5	12	...	19	247
	...	4	...	...	4	...	4	4	1	...	1	2	...	2	6
	16	78	65	58	217	22	239	239	5	3	6	14	...	16	253

APPEN  
STATISTICS OF MINES

Table  
Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and Mates.	Miners.	Skilled labour.	Unskilled labour.	Total Mates.		
Punjab .	Gurgaon . . . . .	Tons. 787	...	6	1	6	13	...	SLA 13
	Kangra . . . . .	4,195	...	...	...	...	...	...	...
	Total . . . . .	4,982	...	6	1	6	13	...	13
	Grand Total (State) for 1927.	6,911	...	6	1	6	13	...	13
	Grand Total of preceding year.	6,357	...	...	...	...	...	...	...
	Differences . . . . .	+554	...	...	...	...	...	...	...
Bihar and Orissa.	Shahabad . . . . .	Tons. 291,048	...	...	...	...	...	...	LIME
	Singhbhum . . . . .	...	...	...	...	...	...	...	...
	Total . . . . .	291,048	...	...	...	...	...	...	...
Burma .	Amherst . . . . .	4,555	...	...	...	...	...	...	...
	Northern Shan States.	48,148	...	...	...	...	...	...	...
	Total . . . . .	47,703	...	...	...	...	...	...	...
Central Provinces.	Bilaspur . . . . .	39,987	...	...	...	...	...	...	...
	Jubbulpore . . . . .	356,696	...	...	...	...	...	...	...
	Raipur . . . . .	4,325	...	...	...	...	...	...	...
	Yeotmal . . . . .	6,186	...	...	...	...	...	...	...
	Total . . . . .	407,144	...	...	...	...	...	...	...

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DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1927 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.						Grand Total.
Males.				Females.	Total Males and Females.	Males.				Females.	Total Males and Females.			
Foremen and Mates.	Miners.	Skilled labour.	Unskilled labour.			Total Males.		Clerical and supervis- ing staff.	Skilled labour.			Unskilled labour.	Total Males.	
FE—contd.														
7	35	34	20	86	...	86	99	1	14	6	21	..	21	120
54	89	82	44	269	...	269	269	...	...	...	...	...	...	269
61	114	116	84	355	...	355	368	1	14	6	21	...	21	389
77	192	191	122	572	22	594	607	6	17	12	35	...	35	642
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
STONE.														
110	436	72	421	1,039	273	1,312	1,312	56	171	300	527	69	615	1,927
...	...	...	...	...	...	...	...	1	3	5	9	7	16	16
110	436	72	421	1,039	273	1,312	1,312	57	174	305	536	95	631	1,943
..	...	25	15	40	...	40	40	1	4	10	15	...	15	55
3	...	4	208	210	...	210	210	...	...	...	...	...	...	210
3	...	29	218	250	...	250	250	1	4	10	15	...	15	265
10	237	...	...	247	131	378	378	6	9	42	67	100	157	535
105	758	82	469	1,414	1,835	3,299	3,299	30	90	199	319	276	595	3,894
...	...	...	132	132	85	217	217	7	10	32	49	27	76	293
3	...	...	29	32	5	37	37	...	1	29	40	30	70	107
118	995	82	630	1,625	2,106	3,931	3,921	43	110	312	465	433	898	4,829



DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1927 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.						Grand Total.	
Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.		
Foremen and Mates.	Miners.	Skilled labour.	Unskilled labour.	Total Males.				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.				
<b>STONE—contd.</b>															
29	247	...	...	276	...	276	276	5	4	233	242	...	242	518	
4	152	...	360	516	50	566	566	4	...	190	124	...	194	690	
5	230	...	325	560	...	560	560	3	...	325	328	...	328	838	
38	629	...	665	1,353	50	1,402	1,402	12	4	673	694	...	694	2,096	
269	2,060	183	1,954	4,466	2,429	6,895	6,895	113	292	1,305	1,710	528	2,338	9,128	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
<b>ROCK.</b>															
2	283	...	17	303	34	336	336	18	45	649	707	178	880	1,216	
1	13	...	...	14	27	41	41	...	...	...	...	...	...	41	
8	141	333	542	1,024	197	1,161	1,161	43	369	769	1,181	427	1,608	2,769	
9	154	333	542	1,038	164	1,202	1,202	43	369	769	1,181	427	1,608	2,810	
...	...	3	...	3	...	3	3	1	3	4	11	3	14	17	
6	...	...	404	410	248	658	658	16	72	157	245	...	245	908	
6	...	3	494	413	248	661	661	17	80	159	256	3	259	920	

APPEN  
STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and Mates.	Miners.	Skilled labour.	Unskilled labour.	Total Males.		
Burma	Bassein . . . . .	Tons. 8,000	...	...	...	...	...	<b>IGNEOUS</b>	
	Thaton . . . . .	388,232	...	...	...	...	...		
	Toungoo . . . . .	25,885	...	...	...	...	...		
	<b>Total</b> . . . . .	<b>417,167</b>	...	...	...	...	...		
	Grand Total (Igneous rock) for 1927.	334,737	...	...	...	...	...		
	Grand Total of preceding year.	414,573	...	...	...	...	...		
	Difference . . . . .	+ 520,164	...	...	...	...	...		
Bihar and Orissa.	Gaya . . . . .	89,849	...	...	...	...	...	<b>STONE</b>	
	Manbhum . . . . .	7,350	...	...	...	...	...		
	Monghyr . . . . .	2,800	...	...	...	...	...		
	Shahabad . . . . .	7,840	...	...	...	...	...		
	Singhbhum . . . . .	89,065	...	...	...	...	...		
<b>Total</b> . . . . .	<b>155,904</b>	...	...	...	...	...			
Punjab.	Rawalpindi . . . . .	61,171	...	...	...	...	...		

DIX I—contd.

AND MINERALS—contd.

No. 1—contd.

year 1927 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.						Grand Total.
Males.					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
Foremen and Males.	Miners.	Skilled labour.	Unskilled labour.	Total Males.				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
<b>ROCK—contd.</b>														
3	80	40	—	78	...	78	73	...	...	...	...	...	73	
7	968	199	395	1,569	80	1,649	1,649	41	86	71	198	...	123	1,847
...	20	...	95	115	6	121	121	1	...	15	16	10	26	147
10	1,018	239	490	1,757	86	1,843	1,843	43	86	86	214	10	224	2,067
27	1,455	575	1,453	3,510	332	4,042	4,042	115	590	1,663	2,358	613	2,971	7,012
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>(UNSPECIFIED).</b>														
32	538	...	...	590	262	852	852	4	...	...	4	...	4	856
1	50	...	...	51	25	76	76	...	20	...	20	...	20	96
...	44	...	...	44	...	44	44	...	...	...	...	...	...	44
4	100	...	...	104	45	149	149	...	...	...	...	...	...	149
7	102	...	...	109	94	203	203	3	...	103	106	8	114	317
44	854	...	...	893	426	1,324	1,324	7	20	103	130	8	138	1,462
4	46	...	...	52	...	52	52	3	173	6	162	...	162	234



APPE  
STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and Mates.	Miners.	Skilled labour.	Unskilled labour.	Total Males.		
United Provinces.		<b>Tons.</b>							
	Allahabad . . . .	39,013	...	...	...	...	...	...	...
	Jhansi . . . . .	24,520	...	...	...	...	...	...	...
	Saharanpur . . . .	50,000	...	...	...	...	...	...	...
	<b>Total</b> . . . .	<b>113,533</b>	...	...	...	...	...	...	...
	Grand Total (Stone unspecified), 1927.	330,608	...	...	...	...	...	...	...
	Grand Total of preceding year.	229,963	...	...	...	...	...	...	...
	Difference . . . .	+100,645	...	...	...	...	...	...	...
Burma . . . . .									<b>LATE</b>
	Toungoo . . . . .	2,349	...	...	...	...	...	...	...
	Thaton . . . . .	54,295	...	...	...	...	...	...	...
	Grand Total (Late-rite), 1927.	56,644	...	...	...	...	...	...	...
	Grand Total of preceding year.	45,289	...	...	...	...	...	...	...
	Difference . . . .	+11,375	...	...	...	...	...	...	...
Bihar and Orissa.	Southal Parganas . . . .	102	...	...	...	...	...	...	<b>SILICA</b> Labour figures included



**APPEN**  
**STATISTICS OF MINES**

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and Mates.	Miners.	Skilled labour.	Unskilled labour.	Total Males.		
Bihar and Orissa. United Provinces.	Shahabad . . .	Tons. 11,528	...	...	...	...	...	...	<b>SAND</b>
	Allahabad . . .	26,507	...	...	...	...	...	...	
	Banda . . .	2,296	...	...	...	...	...	...	
	Total . . .	26,808	...	...	...	...	...	...	
	Grand Total (Sandstone), 1927.	40,331	...	...	...	...	...	...	
	Grand Total of preceding year.	18,502	...	...	...	...	...	...	
	Difference . . .	+21,829	...	...	...	...	...	...	
Bihar and Orissa. Bombay . . .	Singhbhum . . .	5,148	...	...	...	...	Labour figures	included	
	Katra . . .	5,955	...	...	...	...	...		
	Grand Total (Gravel) 1927.	11,108	...	...	...	...	...	...	
	Grand Total of preceding year.	748,895	...	...	...	...	...	...	
	Difference . . .	-737,787	...	...	...	...	...	...	



**APPEN**  
**STATISTICS OF MINES**

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed						Total Males and Females.
			Underground.						
			Males.					Females.	
			Foremen and Mates.	Miners.	Skilled labour.	Unskilled labour.	Total Males.		
		Tons.						<b>MU</b>	
Bihar and Orissa.	Singhbhum . . .	56						Labour figures included with those for	
United Provinces.	Allahabad . . .	7,221						Labour figures included with those for	
	Jhansi . . .	800						Ditto.	
	Total . . .	8,021	...	...	...	...	...	...	
Bombay	Bombay Suburban	1,070,014						Labour figures included with those for	
	Khaira . . .	4,969						Labour figures included with those for	
	Total . . .	1,074,983	...	...	...	...	...	...	
	Grand Total (Muram), 1927.	1,083,060	...	...	...	...	...	...	
								<b>FIRE</b>	
Bengal . . .	Burdwan . . .	8,278	...	...	...	...	...	...	
Bihar and Orissa.	Bhagalpore . . .	189	...	6	...	...	6	5	11
	Manbhum . . .	12,570	...	...	...	...	...	...	...
	Palaman . . .	4,893	...	...	...	...	...	...	...
	Total . . .	17,652	...	6	...	...	6	5	11

## DIX I—contd.

## AND MINERALS—contd.

## No. 1—contd.

year 1927 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.						Grand Total.
Foremen and Mates.	Males.				Females.	Total Males and Females.		Clerical and supervising staff.	Males.			Females.	Total Males and Females.	
	Miners.	Skilled labour.	Unskilled labour.	Total Males.					Skilled labour.	Unskilled labour.	Total Males.			
<b>RUM.</b>														
stone (unspecified).														
stone (unspecified)														
Ditto.														
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Igneous Rock.														
Gravel.														
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>CLAY.</b>														
...	...	16	...	16	25	41	41	...	20	...	20	...	20	61
...	...	...	3	3	...	3	14	...	...	...	...	...	...	14
3	101	...	19	122	84	206	206	1	1	50	52	36	88	294
1	12	3	...	16	11	27	27	2	12	20	31	11	45	73
8	118	3	22	141	95	236	247	3	13	70	66	47	133	380















APPEN  
STATISTICS OF MINES

Table  
Number of workers and output of minerals during the

Province.	District and mineral field.	Total output.	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and Mates.	Miners.	Skilled labour.	Unskilled labour.	Total Males.		
Bihar and Orissa.	Singhbhum . . .	Tons. 760	...	...	...	...	...	...	KYA
	Total of preceding year.	1,246	...	...	...	...	...	...	...
	Difference . . .	-486	...	...	...	...	...	...	...
Central Provinces.	Bhandara . . .	13	...	...	...	...	...	...	CORUN
	Salem . . .	52	...	...	...	...	...	...	...
Madras . . .	Grand Total (Corundum), 1937.	65	..	..	..	..	..	..	..
	Grand Total of preceding year.	28	...	...	..	...	...	...	...
	Difference . . .	+37	...	...	..	...	...	...	...
	Jhelum . . .	1,859	...	...	..	..	..	..	GYP
Punjab . . .	Total of preceding year.	..	..	..	..	..	..	..	..
	Difference . . .	+1,859	...	...	..	...	...	...	...

## DIX I—contd.

## AND MINERALS—contd.

## No. 1—contd.

year 1927 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Foremen and Mates.	Open workings.						Total Underground and Open workings.	Surface.						Grand Total.
	Males.					Females.		Males.					Females.	
	Miners.	Skilled labour.	Unskilled labour.	Total Males.	Total Males and Females.			Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.	Total Males and Females.		
<b>NITE.</b>														
1	21	...	...	22	...	22	22	...	...	10	10	11	21	43
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>DUM.</b>														
2	4	...	...	6	10	16	16	...	...	7	7	...	7	23
3	30	2	10	45	15	60	60	1	...	4	5	65	70	180
5	34	2	10	51	25	76	76	1	...	11	12	65	77	153
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>SUM.</b>														
those for salt.														
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

## STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and mineral field.	Total output.	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and mates.	Minors.	Skilled labour.	Unskilled labour.	Total Males.		
Burma	Tavoy	lbs.						BIS	
		48	...	...	Labour figures included with those				
	Total of preceding year.	...	...	...	...	...	...	...	
	Difference	+ 48	...	...	...	...	...	...	
	Grand Total Metal-liferous Mines for 1927.	...	885	11,505	1,312	3,749	17,451	3,809	21,260
	Grand Total of preceding year.	...	689	9,992	1,100	3,688	15,469	3,398	18,862
	Difference	...	+196	+1,513	+212	+61	+1,982	+416	+2,398
	Grand Total (all Minerals), 1927.	...	...	...	...	...	86,766	81,850	118,616
	Grand Total of preceding year.	...	...	...	...	...	86,348	81,689	118,232
	Difference	...	...	...	...	...	+423	-39	+384

## DIX I—contd.

## AND MINERALS—contd.

## No. 1—contd.

year 1927 at mines under the Indian Mines Act—contd.

daily in and about the mines.

Open workings.					Females.	Total Males and Females.	Total Underground and Open workings.	Surface.					Females.	Total Males and Females.	Grand Total.
Males.								Males.							
Foremen and Mates.	Miners.	Skilled labour.	Unskilled labour.	Total males.				Colonial and supervising staff.	Skilled labour.	Unskilled labour.	Total males.	Total Males and Females.			
MUTH.															
for tin	ore.														
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1,720	25,812	2,566	9,123	39,221	21,697	61,118	82,378	1,867	3,834	10,554	16,255	5,444	21,699	104,077	
1,515	26,191	1,775	4,852	34,332	20,722	55,054	73,916	1,335	2,419	7,865	11,619	3,950	15,569	89,485	
+205	-379	+792	+4,271	+4,869	-1,175	+6,064	+8,462	+532	+1,415	+3,689	+4,636	+1,494	+6,130	+14,592	
...	...	...	...	50,028	37,697	77,725	196,341	...	...	...	53,903	19,046	72,949	269,290	
...	...	...	...	48,306	27,833	71,139	169,871	...	...	...	51,967	18,775	70,742	280,113	
...	...	...	...	+6,722	-130	+6,593	+6,070	...	...	...	+1,936	+271	+2,207	+9,177	





## DIX I—contd.

## No. 2.

each important mining field during the year 1927.

Open workings.						Surface			
Overmen and Sirdars. — Foremen and Mates.	Miners.	Loaders.	Skilled Labour.	Unskilled Labour.	Females	Clerical and Supervising Staff.	Skilled Labour.	Unskilled Labour.	Females.
45	42	44	45	44	40	52	52	40	49
46	38	46	39	38	39	52	51	45	49
48	44	44	48	45	40	48	48	45	48
54	54	54	54	54	54	56	56	57	57
...	...	...	...	...	..	52	46	45	55
...	...	...	...	...	...	...	56	42	...
...	...	...	...	...	...	52	51	51	50
40	41	...	45	45	40	48	46	48	48
46	46	...	46	45	46	46	45	47	45
45	43	...	46	45	43	44	42	44	42
49	49	...	46	49	50	51	50	49	50
50	49	...	53	47	47	48	49	49	47
45	45	...	47	48	42	47	47	45	44
50	...	...	56	50	...	55	54	54	56
49	49	...	46	46	42	49	52	51	51
48	48	...	...	...	...	46	50	49	...
42	44	...	...	42	42	46	45	45	46
48	48	...	44	50	...	38	44	54	...
50	49	...	...	56	52	52	...	56	47

Table

Analysis of figures relating to

Province.	District and mineral field.	Coal.						
		Opening stock.	Raisings.	Total.	Despatches.	Colliery consumption.	Coal delivered to coking.	
		Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	
Assam	Lakhimpur . . .	...	271,220	271,220	251,325	16,365	3,030	
	Naga Hills . . .	43	51,297	51,340	50,380	835	...	
	Total . . .	43	322,517	322,560	302,205	17,200	3,030	
Baluchistan	Quetta-Pishin . . .	1,168	7,211	8,373	6,506	82	...	
	Sibi-Khost . . .	895	1,734	2,629	1,697	372	...	
	Total . . .	2,057	8,945	11,002	8,503	354	...	
Bengal	Bankura . . .	704	8,059	8,763	6,488	1,647	...	
	Birbhum . . .	5,547	...	5,547	411	708	...	
	Burdwan . . .	445,827	5,546,931	5,992,758	5,098,315	501,179	19,863	
	Total . . .	452,078	5,554,990	6,007,068	5,105,514	508,534	19,863	
Bihar and Orissa.	Hazaribagh {	Dokaro . . .	6,928	1,790,594	1,797,522	1,759,526	42,000	7,481
		Giridih . . .	12,930	855,253	867,883	801,091	51,399	...
		Jharis . . .	46,682	58,934	100,616	35,868	11,625	2,563
		Karanpura . . .	5,822	262,014	267,836	250,707	14,880	...
		Ramgarh . . .	185	340	475	372	...	...
	Carried over . . .	72,197	2,962,135	3,034,332	2,827,564	119,404	10,044	

DIX I—contd.

No. 3.

output of Coal and Coke, 1927.

Coal despatched to coke factories.	Closing stock.	Coke.									
		Opening stock.		Coke made.		Despatches.		Colliery consumption.		Closing stock.	
		Hard.	Soft.	Hard.	Soft.	Hard.	Soft.	Hard.	Soft.	Hard.	Soft.
Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
...	...	...	...	1,010	...	974	...	86	...	...	...
...	125	...	...	...	...	...	...	...	...	...	...
...	125	...	...	1,010	...	974	...	86	...	...	...
...	1,485	...	...	...	...	...	...	...	...	...	...
...	60	...	...	...	...	...	...	...	...	...	...
...	1,545	...	...	...	...	...	...	...	...	...	...
...	628	...	...	...	...	...	...	...	...	...	...
...	4,428	...	...	...	...	...	...	...	...	...	...
...	878,101	48	598	918	11,596	956	11,578	1	139	9	482
—	878,157	48	598	918	11,596	956	11,578	1	139	9	482
...	8,515	...	140	941	3,571	930	3,711	11	...	...	...
67,421	15,398	...	...	...	...	...	...	...	...	...	...
...	50,560	49	119	18	1,650	18	1,738	49	1	...	30
...	2,749	...	...	...	...	...	...	...	...	...	...
...	108	...	...	...	—	...	...	...	...	...	...
67,421	77,320	49	250	954	5,221	948	5,449	60	1	...	30

Table

Analysis of figures relating to

Province.	District and mineral field.	Coal.					
		Opening stock.	Raisings.	Total.	Despatches.	Colliery consumption.	Coal delivered to coking.
		Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Bihar and Orissa.	Brought forward .	72,197	2,962,135	3,034,332	2,327,564	119,404	10,044
	Manbhurn { Jharis	1,461,217	10,529,553	11,990,770	9,352,950	657,536	790,549
	{ Raniganj	98,624	849,085	947,709	681,835	67,702	133,034
	Palamanu-Daltonganj	...	...	...	...	...	...
	" Hutar .	85	709	794	226	823	...
	Sambalpur-Hingir Rampur.	2,441	26,895	29,336	19,349	7,686	...
	Sonthal Parganas { Jainty .	3,408	56,724	60,132	45,047	18,401	...
	{ Raniganj.	35,068	67,961	103,029	57,091	13,468	...
	{ Rajmahal.	...	...	...	...	...	...
	Total .	1,673,040	14,493,062	16,166,102	12,964,112	679,635	923,627
Central Provinces.	Betul . . . . .	189	6	195	89	100	...
	Chanda, Ballarpur.	12,996	158,617	171,613	139,120	28,320	...
	Chhindwara, Pench Valley.	17,462	505,913	523,375	476,599	37,368	...
	Narsingpur Mohpani.	...	...	...	...	...	...
	Yeotmal . . . . .	...	2,222	2,222	...	2,222	...
Total .	30,647	666,758	697,405	615,608	68,010	...	
Punjab . . . . .	Jhalum . . . . .	2,305	89,545	41,850	88,677	2,066	...
	Mianwali . . . . .	1,636	15,488	17,124	16,379	44	...
	Shahpur . . . . .	...	7,671	7,671	7,891	280	...
	Total .	3,941	63,704	66,645	62,447	2,410	...
Grand Total, 1927 .	2,161,506	21,108,976	23,270,752	19,078,539	1,466,743	946,530	

DIX I—*contd.*No. 3—*contd.*

## output of Coal and Coke, 1927.

		Coke									
Coal despatched to cokes factories.	Closing stock.	Opening stock.		Coke made.		Despatches.		Colliery consumption.		Closing stock.	
		Hard.	Soft.	Hard.	Soft.	Hard.	Soft.	Hard.	Soft.	Hard.	Soft.
Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
67,421	77,320	49	259	954	5,221	943	5,449	60	1	...	30
1,227,565	1,189,785	4,147	9,527	39,563	499,162	38,764	497,392	451	1,256	4,495	10,041
...	74,998	1	3,269	...	92,633	1	93,709	...	763	...	1,450
...	...	...	...	...	...	...	...	...	...	...	...
...	240	...	...	...	...	...	...	...	...	...	...
...	2,301	...	...	...	...	...	...	...	...	...	...
...	1,684	...	...	...	...	...	...	...	...	...	...
...	32,450	...	87	...	...	...	27	...	...	...	60
...	...	...	...	...	...	...	...	...	...	...	...
1,294,966	1,378,723	4,197	13,162	40,517	597,016	39,708	596,577	511	2,020	4,495	11,581
...	6	...	...	...	...	...	...	...	...	...	...
...	9,173	...	...	...	...	...	...	...	...	...	...
...	9,408	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...
...	18,537	...	...	...	...	...	...	...	...	...	...
...	1,087	...	...	...	...	...	...	...	...	...	...
...	701	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...
...	1,788	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...
1,294,966	1,778,930	4,245	13,700	42,445	608,612	41,638	606,150	546	2,159	4,504	12,063

## APPENDIX I—contd.

Table No. 4.

Numbers of mines opened, closed and inspected, during the year 1927.

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
Assam	Lakhimpur	7	5	2	...	...	9	19
	Naga Hills	1	...	1	...	...	1	2
	Total	8	5	3	...	...	10	21
Baluchistan	Quetta-Pishin	9	...	9	...	1	4	4
	Sibi, Khost	4	...	4	2	2	3	3
	Total	13	...	13	2	3	7	7
Bengal	Bankura, Raniganj	4	...	4	...	2	5	13
	Birbhum	2	...	2	1	1	...	...
	Burdwan,	185	169	16	10	19	202	714
	Total	191	169	22	11	22	207	727
Bihar and Orissa.	Hazaribagh—							
	Bokaro	5	5	...	...	...	5	26
	Giridih	10	5	5	...	...	9	27
	Jharia	8	4	4	...	2	6	7
	Karanpura	3	2	1	...	...	3	10
	Ramgarh	1	...	1	...	1	...	...
	Manbhum—Jharia	269	187	102	3	23	222	634
	Raniganj	62	23	39	6	24	68	205
	Palaman, Hutar	1	...	1	...	...	1	1
Sambalpur, Hingir-Rampur	1	1	...	...	...	1	2	
	Carried over	380	227	153	14	65	315	912

## APPENDIX I—contd.

Table No. 4—contd.

Numbers of mines opened, closed and inspected, during the year 1927—contd.

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
			<b>COAL—contd.</b>					
	Brought forward	360	227	153	14	65	315	912
Bihar and Orissa—contd.	Sonthal Parganas—							
	Jainty . . . . .	4	1	3	...	...	5	7
	Raniganj . . . . .	5	4	1	...	...	5	8
	Total	369	232	157	14	65	325	927
Central Provinces.	Betal . . . . .	2	...	2	1	2	...	...
	Chanda, Ballarpur . . . . .	7	6	1	1	...	5	7
	Chhindwara, Pench Valley . . . . .	19	12	7	2	3	20	93
	Yeotmal . . . . .	1	1	...	...	1	...	...
	Total	29	19	10	4	6	25	100
Punjab.	Jhelum . . . . .	12	...	12	1	3	5	5
	Mianwali . . . . .	1	...	1	...	...	2	2
	Shahpur . . . . .	1	...	1	...	...	2	2
	Total	14	...	14	1	3	9	9
	Grand Total (Coal) for 1927 . . . . .	644	425	219	32	99	588	1,791
	Grand Total of preceding year.	722	458	269	48	192	680	1,702
	Difference	-78	-23	-50	-16	-93	-77	+89



APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1927—*contd.*

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
<b>IRON ORE.</b>								
Bihar and Orissa	Singhbhum	7	3	4	1	1	4	5
Burma .	Mandalay	1	...	1	...	...	...	...
	Northern Shan States	5	...	5	...	...	1	1
	Total	6	...	6	...	...	1	1
Central Provinces.	Drug	1	...	1	...	...	1	1
	Grand Total (Iron ore)	14	3	11	1	1	6	7
	Grand Total of preceding year.	15	3	12	3	1	6	9
	Difference	-1	...	-1	-2	...	...	-2
<b>MANGANESE ORE.</b>								
Bihar and Orissa.	Singhbhum	9	...	9	6	...	4	4
Bombay .	Belgaum	4	...	4	2	...	4	5
	North Kanara	2	...	2	1	...	1	1
	Panch Mahals	2	...	2	...	...	...	...
	Total	8	...	8	3	...	5	6

APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1927—*contd.*

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
<b>MANGANESE ORE—<i>contd.</i></b>								
Central Provinces.	Balaghat . . . . .	97	2	95	11	23	80	187
	Bhandara . . . . .	24	...	24	4	9	19	34
	Chhindwara . . . . .	8	1	7	5	3	1	2
	Jubbulpore . . . . .	3	...	3	2	3	...	...
	Nagpur . . . . .	58	6	52	11	15	34	89
	Total . . . . .	190	9	181	33	58	134	202
Madras . . . . .	Bellary . . . . .	5	...	5	1	2	4	4
	Kurnool . . . . .	1	...	1	1	...	...	...
	Vizagapatam . . . . .	7	1	6	1	...	3	3
		Total . . . . .	13	1	12	3	7	7
	Grand Total (Manganese Ore)	220	10	210	45	55	150	219
	Grand Total of preceding year.	221	10	211	27	49	58	72
	Difference . . . . .	-1	...	-1	+18	+6	+92	+147
<b>LEAD ORE.</b>								
Uttar Pradesh.	Northern Shan States . . . . .	1	1	...	...	...	1	7
	Southern Shan States . . . . .	3	2	1	...	...	...	...
	Grand Total (Lead Ore)	4	3	1	...	...	1	7
	Grand Total of preceding year.	7	4	3	1	3	3	5
	Difference . . . . .	-3	-1	-2	-1	-3	-2	+2

## APPENDIX I—contd.

Table No. 4—contd.

Numbers of mines opened, closed and inspected, during the year 1927—contd.

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
<b>ANTIMONIAL LEAD.</b>								
Burma	Northern Shan States	...	..	..	...	..	...	..
	Total of preceding year	...	...	...	...	...	...	...
	Difference	...	..	..	...	...	..	..
<b>SILVER.</b>								
Burma	Northern Shan States	...	...	..	..	..	...	..
Madras	Anantapur	...	...	..	..	..	...	..
	Grand Total (Silver)	...	2	..	..	..	...	..
	Grand Total of preceding year.	...	..	..	..	..	...	..
	Difference	..	...	..	..	..	...	..
<b>GOLD.</b>								
Bihar and Orissa	Singbhum	1	...	1	..	..	...	..
Madras	Anantapur	1	1	..	..	1	2	2
	Grand Total (Gold)	2	1	1	..	1	2	2
	Grand Total of preceding year.	2	1	1	..	..	1	1
	Difference	...	..	..	..	+1	+1	+1

## APPENDIX I—contd.

Table No. 4—contd.

Numbers of mines opened, closed and inspected, during the year 1927—contd.

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
<b>TIN AND WOLFRAM ORE.</b>								
Burma . . . . .	Mergui . . . . .	116	5	111	37	25	11	11
	Tavoy . . . . .	82	2	80	7	21	18	17
	Thaton . . . . .	2	...	2	...	...	...	...
	Grand Total (Tin and Wolfram Ore) . . . . .	200	7	193	44	46	27	28
	Grand Total of preceding year . . . . .	210	7	203	49	55	37	105
	Difference . . . . .	-10	...	-10	-5	-9	-60	-77
<b>CHROMITE ORE.</b>								
Baluchistan . . . . .	Quetta-Fishin . . . . .	2	...	2	...	...	...	...
	Zhob . . . . .	32	...	32	...	...	5	6
	Total . . . . .	34	...	34	...	...	5	6
Bihar and Orissa	Singhbhum . . . . .	3	...	3	2	...	3	3
	Grand Total (Chromite Ore) . . . . .	37	...	37	2	...	8	9
	Grand Total of preceding year . . . . .	36	...	36	1	1	10	10
	Difference . . . . .	+1	...	+1	+1	-1	-2	-1

## APPENDIX I—contd.

Table No. 4—contd.

Numbers of mines opened, closed and inspected, during the year 1927—contd.

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
			<b>COPPER ORE.</b>					
Burma . . .	Hensada . . . . .	1	..	1	..	..	..	..
Bihar and Orissa.	Singbhum . . . . .	1	1	..	..	..	1	2
Madras . . .	Nellore . . . . .	1	..	1	..	..	..	..
Grand Total (Copper Ore)		3	1	2	..	..	1	2
Grand Total of preceding year.		3	1	2	2	..	1	1
Difference		..	..	..	-2	..	..	+1
			<b>COPPER MATTE.</b>					
Burma . . .	Northern Shan States . . .	..	..	..	..	..	..	..
Total of preceding year		..	..	..	..	..	..	..
Difference		..	..	..	..	..	..	..
			<b>ZINC CONCENTRATES.</b>					
Burma . . .	Northern Shan States . . .	..	..	..	..	..	..	..
Total of preceding year		..	..	..	..	..	..	..
Difference		..	..	..	..	..	..	..
			<b>GEMS.</b>					
Burma . . .	Katha . . . . .	2	2	..	1	..	..	..
Total of preceding year		2	2	..	..	1	..	..
Difference		..	..	..	+1	-1	..	..

## APPENDIX I—contd.

Table No. 4—contd.

Numbers of mines opened, closed and inspected, during the year 1927—contd.

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
Bihar and Orissa.	Gaya . . . . .	22	...	22	11	5	6	8
	Hazaribagh . . . . .	422	33	359	124	106	120	128
	Monghyr . . . . .	21	...	21	13	16	...	...
	Sambalpur . . . . .	2	...	2	1	...	...	...
	Total . . . . .	467	33	494	149	127	126	136
			<b>MICA.</b>					
Madras	Madura . . . . .	1	...	1	...	1	...	...
	Nellore . . . . .	124	24	100	44	35	57	57
	Nilgiris . . . . .	4	1	3	2	2	2	2
	Total . . . . .	129	25	104	46	38	59	59
Rajputana	Ajmer-Merwara . . . . .	34	...	34	17	16	6	6
	Grand Total (Mica) . . . . .	630	53	573	212	191	193	201
	Grand Total of preceding year . . . . .	601	64	537	202	190	197	207
	Difference . . . . .	+29	-6	+36	+10	-9	-4	-6
			<b>SALT.</b>					
Punjab	Jhelum . . . . .	1	1	...	...	...	1	1
	Mianwali . . . . .	1	..	1	...	...	1	1
	Shahpur . . . . .	1	...	1	...	...	1	1
	Total . . . . .	3	1	2	...	...	3	3
	Total of preceding year . . . . .	3	2	1	...	...	3	3
Difference . . . . .	...	-1	+1	...	...	...	...	

APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1927—*contd.*

PROVINCE.	District and municipal field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
<b>MAGNESITE.</b>								
Madras . . .	Salem . . . . .	3	..	3	..	..	2	2
	Total of preceding year . . . . .	3	...	3	1	...	2	2
	Difference . . . . .	...	...	...	-1	...	...	..
<b>BAUXITE.</b>								
Bombay . . .	Kaira . . . . .	1	...	1	1	...	...	...
Central Provinces.	Jubbulpore . . . . .	2	...	2	1	...	...	...
	Grand Total (Bauxite) . . . . .	3	...	3	2	..	...	...
	Grand Total of preceding year . . . . .	3	...	3	1	1	3	4
	Difference . . . . .	...	...	...	+1	-1	-3	-4
<b>STEATITE.</b>								
Bihar and Orissa.	Singbhum . . . . .	4	...	4	...	...	...	...
	Sonthal Parganas . . . . .	2	...	2	2	...	...	...
	Total . . . . .	6	...	6	2	...	...	...
Central Provinces.	Bhandara . . . . .	1	...	1	...	...	...	...
	Jubbulpore . . . . .	4	...	4	1	1	2	2
	Total . . . . .	5	...	5	1	1	2	2
Madras . . .	Nellore . . . . .	2	...	2	...	...	2	2

## APPENDIX I—contd.

Table No. 4—contd.

Numbers of mines opened, closed and inspected, during the year 1927—contd.

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under me- chanical power.	Not worked by me- chanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspec- tions.
United Pro- vinces.	Hamirpur . . . . .	1	...	1	1	1	4	4
		Jhansi . . . . .	2	...	2	2	...	...
	Total . . . . .	3	...	3	3	1	4	4
	Grand Total (Steatite) . . . . .	16	...	16	6	2	8	8
	Grand Total of preceding year . . . . .	28	...	28	16	13	5	6
	Difference . . . . .	-12	...	-12	-10	-11	+3	+2
Bihar and Orissa.	Monghyr . . . . .	6	...	6	1	...	1	1
		Singhbhum . . . . .	1	...	1	...	1	...
	Total . . . . .	7	...	7	1	1	1	1
Punjab	Gurgaon . . . . .	6	...	6	1	1	4	4
		Kangra . . . . .	5	...	5	...	...	...
	Total . . . . .	11	...	11	1	1	4	4
	Grand Total (Slate) . . . . .	18	...	18	2	2	5	5
	Grand Total of preceding year . . . . .	15	...	15	4	3	12	17
Difference . . . . .	+3	...	+3	-2	-1	-7	-12	



APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1927—*contd.*

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES:				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
<b>LIMESTONE.</b>								
Bihar and Orissa.	Shahabad . . . . .	11	1	10	1	...	9	9
	Singbhum . . . . .	1	...	1	...	1	...	...
	Total . . . . .	12	1	11	1	1	9	9
Surma . . . . .	Amherst . . . . .	1	...	1	1	...	1	1
	Northern Shan States . . . . .	3	...	3	1	...	5	7
	Total . . . . .	4	...	4	2	...	6	8
Central Provinces.	Bilaspur . . . . .	3	...	3	...	...	...	...
	Jubbulpore . . . . .	16	2	14	4	3	1	1
	Raipur . . . . .	2	...	2	...	...	...	...
	Yeotmal . . . . .	2	...	2	2	...	...	...
	Total . . . . .	23	2	31	6	3	1	1
Punjab . . . . .	Attock . . . . .	2	...	2	2	...	2	2
	Jhelum . . . . .	3	...	3	2	...	1	1
	Rawalpindi . . . . .	1	...	1	...	...	3	3
	Total . . . . .	6	...	6	4	...	6	6
Grand Total (Limestone) . . . . .		45	3	42	13	4	23	24
Grand Total of preceding year.		40	4	36	6	13	37	54
Difference . . . . .		+5	-1	+6	+7	-3	-15	-30

APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1927—*contd.*

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.		
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.	
Bengal	Birbhum . . . . .	4	<b>IGNEOUS ROCK.</b>				1	1	
			1	3	3	...	1	1	
Bihar and Orissa.	Singbhum . . . . .	1	...	1	...	...	...	...	
	Sonthal Parganas . . . . .	43	...	43	39	3	42	42	
	Total	44	...	44	39	3	42	42	
Bombay	Bombay Suburban . . . . .	4	...	4	...	1	3	3	
	Colaba . . . . .	1	...	1	1	...	...	...	
	Total	5	...	5	1	1	3	3	
Burma	Bassein . . . . .	1	...	1	...	...	...	...	
	Taungoo . . . . .	2	...	2	2	...	...	...	
	Thaon . . . . .	8	...	8	3	2	7	9	
	Total	11	...	11	5	2	7	9	
	Grand Total (Igneous Rock) .		64	1	63	48	6	53	55
	Grand Total of preceding year		19	...	19	4	2	76	99
Difference		+45	+1	+44	+44	+4	-25	-44	
Bihar and Orissa.			<b>STONE (unspecified).</b>						
	Gaya . . . . .	4	...	4	4	1	...	...	
	Manbhum . . . . .	1	...	1	1	...	...	...	
	Monghyr . . . . .	1	...	1	1	1	...	...	
	Shahabad . . . . .	1	...	1	1	...	...	...	
	Singbhum . . . . .	5	...	5	...	1	...	...	
Total		12	...	12	7	3	...	...	

APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1927—*contd.*

Province.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
<b>STONE (unspecified)—<i>contd.</i></b>								
Punjab	Rawalpindi . . . . .	1	..	1	..	..	..	..
United Provinces.	Allahabad . . . . .	9	..	9	7	..	7	7
	Jhansi . . . . .	10	..	10	5	4	..	..
	Saharanpur . . . . .	1	..	1	1	..	1	1
	Total	20	..	20	13	4	8	8
	Grand Total (Stone unspecified).	33	..	33	20	7	8	8
	Grand Total of preceding year.	19	..	19	3	1	..	..
	Difference	+14	..	+14	+17	+6	+8	+1
<b>LATERITE.</b>								
Barma . . . . .	Toungoo . . . . .	1	..	1	1	..	..	..
	Thaton . . . . .	1	..	1	1	..	1	..
	Total (Laterite)	2	..	2	2	..	1	..
	Total of preceding year	..	..	..	..	..	..	..
	Difference	+2	..	+2	+2	..	+1	+
<b>SILICA SAND.</b>								
Bihar and Orissa.	Sonthal Parganas . . . . .	..	..	..	..	..	..	..
	Total of preceding year	..	..	..	..	..	..	..
	Difference	..	..	..	..	..	..	..

## APPENDIX I—contd.

Table No. 4—contd.

Numbers of mines opened, closed and inspected, during the year 1927—contd.

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
<b>SANDSTONE.</b>								
Bihar and Orissa	Shahabad . . . . .	2	...	2	...	...	6	6
United Provinces.	Allahabad . . . . .	3	...	3	1	...	2	2
	Banda . . . . .	1	...	1	...	...	2	2
	Total . . . . .	4	...	4	1	...	4	4
	Grand Total (Sandstone) . . . . .	16	...	6	1	...	10	10
	Grand Total of preceding year . . . . .	11	...	11	3	5	2	2
	Difference . . . . .	-5	...	-5	-7	-5	+8	+8
<b>GRAVEL.</b>								
Bihar and Orissa	Singhbhum . . . . .	...	...	...	...	...	...	...
Bombay . . . . .	Kaira . . . . .	1	...	1	...	...	...	...
	Grand Total (Gravel) . . . . .	1	...	1	...	...	...	...
	Grand Total of preceding year . . . . .	2	...	2	1	...	...	...
	Difference . . . . .	-1	...	-1	-1	...	...	...

## APPENDIX I—contd.

Table 4—contd.

Numbers of mines opened, closed and inspected, during the year 1927—contd.

PROVINCES.	District and mineral field.	Number of mines under the scope of the Act.	NUMBER OF MINES.				INSPECTIONS.	
			Worked under me- chanical power.	Not worked by me- chanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspec- tions.
<b>MURUM.</b>								
Bihar and Orissa	Singbhum . . . . .	...	...	...	...	...	...	...
Bombay	Bombay Subarban . . . . .	...	...	...	...	...	...	...
	Kaira . . . . .	...	...	...	...	...	...	...
	Total	...	...	...	...	...	...	...
United Pro- vinces.	Allahabad . . . . .	...	...	...	...	...	...	...
	Jhansi . . . . .	...	...	...	...	...	...	...
	Total	...	...	...	...	...	...	...
	Grand Total (Murum)	...	...	...	...	...	...	...
	Grand Total of preceding year	...	...	...	...	...	...	...
	Difference	...	...	...	...	...	...	...
<b>FIRE CLAY.</b>								
Bengal	Burdwan . . . . .	1	...	1	...	...	...	...
Bihar and Orissa.	Bhagalpur . . . . .	1	...	1	...	...	1	1
	Manbhum . . . . .	5	...	5	1	2	...	...
	Palamau . . . . .	1	1	...	...	...	1	1
	Total	7	1	6	1	2	2	2



APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1927—*contd.*

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act.	NUMBERS OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
<b>BARYTES.</b>								
Madras . . .	Kurnool . . . . .	5	..	5	3	..	2	2
	Total of preceding year . . .	3	..	3	..	1	2	2
	Difference . . . . .	+2	..	+2	+3	-1	..	..
<b>APATITE.</b>								
Bihar and Orissa.	Singhbhum . . . . .	1	..	1	..	..	..	..
	Total of preceding year . . .	1	..	1	..	..	..	..
	Difference . . . . .	..	..	..	..	..	..	..
<b>ASBESTOS.</b>								
Madras . . .	Cuddapah . . . . .	1	..	1	..	..	..	..
Rajputana . . .	Ajmer-Merwara . . . . .	1	..	1	1	..	..	..
	Grand Total (Asbestos) . . .	2	..	2	1	..	..	..
	Total of preceding year . . .	1	..	1	..	..	..	..
	Difference . . . . .	+1	..	+1	+1	..	..	..





APPENDIX I—*contd.*Table No. 4—*contd.*Numbers of mines opened, closed and inspected, during the year 1927—*contd.*

PROVINCE.	District and mineral field.	Number of mines under the scope of the Act	NUMBER OF MINES.				INSPECTIONS.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
Central Provinces. Madras	Bhandara . . . . .	1	..	1	1	1	..	..
	Salem . . . . .	2	..	2	1	1	1	1
	<b>Grand Total (Corundum)</b>	<b>3</b>	<b>..</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>
	<b>Grand Total of preceding year</b>	<b>2</b>	<b>..</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>..</b>	<b>..</b>
	<b>Difference</b>	<b>+1</b>	<b>..</b>	<b>+1</b>	<b>..</b>	<b>+1</b>	<b>+1</b>	<b>+1</b>
Burma	Lavoy . . . . .	..	..	..	..	..	..	..
	<b>Total of preceding year</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>
	<b>Difference</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>
Punjab	Jhelum . . . . .	..	..	..	..	..	..	..
	<b>Total of preceding year</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>
	<b>Difference</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>
	<b>Grand Total (Metalliferous Mines), 1927.</b>	<b>1,348</b>	<b>97</b>	<b>1,251</b>	<b>413</b>	<b>819</b>	<b>513</b>	<b>604</b>
	<b>Grand Total of preceding year.</b>	<b>1,275</b>	<b>103</b>	<b>1,172</b>	<b>349</b>	<b>347</b>	<b>520</b>	<b>619</b>
	<b>Difference</b>	<b>+73</b>	<b>-6</b>	<b>+79</b>	<b>+73</b>	<b>-28</b>	<b>-7</b>	<b>-15</b>
Punjab	<b>Grand Total (All minerals), 1927.</b>	<b>1,992</b>	<b>522</b>	<b>1,470</b>	<b>445</b>	<b>418</b>	<b>1,098</b>	<b>2,395</b>
	<b>Grand Total of preceding year.</b>	<b>1,997</b>	<b>558</b>	<b>1,441</b>	<b>368</b>	<b>469</b>	<b>1,180</b>	<b>2,321</b>
	<b>Difference</b>	<b>-5</b>	<b>-34</b>	<b>+29</b>	<b>+77</b>	<b>-51</b>	<b>-84</b>	<b>+74</b>

## APPENDIX I—contd.

Table No. 5.

The following table shows the fluctuations in the output of the principal minerals raised from mines classed under the Indian Mines Act. The other minerals raised are gems, slate, magnesite, steatite, clay, bauxite, fuller's earth, ochre, barytes, apatite, asbestos, corundum and stone.

Year.	Coal.	Manganese ore.	Mica.	Limestone.	Salt.	Gold.	Copper ore.	Wolfram ore.	Iron ore.	Chromite ore.	Tin ore.	Lead ore.	Silver.
	Tons.	Tons.	Cwts.	Tons.	Tons.	Troyozs.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Troy ozs.
1918	19,847,039	416,387	81,672	131,451	159,513	19,916	3,619	3,609	115,890	24,030	802	3	1,169
1919	21,759,727	420,184	81,683	149,810	174,974	11,191	32,768	2,906	101,322	14,067	791	24	753
1920	17,682,711	582,696	44,666	161,340	181,092	13,645	23,167	1,733	143,472	23,123	1,036	123,908	2,870,595
1921	18,353,934	234,254	29,470	234,252	123,084	10,108	32,560	664	266,190	27,727	1,032	144,069	3,356,640
1922	18,168,988	392,322	30,089	140,507	187,187	9,368	30,764	942	240,383	19,698	1,060	172,018	4,206,138
1923	18,763,967	546,378	31,605	236,161	119,700	1,519	6,559	872	292,033	25,238	1,021	245,925	4,844,043
1924	20,256,034	666,331	40,829	313,333	159,918	3,648	38	739	430,805	27,850	1,627	310,236	5,237,900
1925	19,969,041	710,347	45,393	314,222	125,366	288	—	772	529,376	21,239	2,307	321,854	4,391,569
1926	20,093,024	687,099	41,451	327,223	122,301	1,033	9,568	751	600,363	18,455	2,665	362,904	5,103,705
1927	21,108,978	678,521	42,061	1,132,235	145,311	2,395	5,010	690	1,068,291	17,066	2,656	450,777	6,004,386

Table No. 6.

The following table shows the amount of coal raised, the average number of persons working daily and the death-rates during the years 1918 to 1927 in respect of coal mines under the Indian Mines Act :—

Year.	Amount of coal raised.	Average number of persons working daily below and above ground.	Number of deaths below and above ground.	Death-rates.	
				Per 1,000,000 tons raised.	Per 1,000 persons working daily below and above ground.
1918	Tons. 19,847,039	176,269	197	9.93	1.12
1919	21,759,727	190,052	260	11.95	1.37
1920	17,682,711	175,943	172	10.07	0.98
1921	18,353,934	190,647	257	13.99	1.35
1922	18,168,988	184,355	209	11.50	1.13
1923	18,763,967	182,601	332	17.69	1.82
1924	20,256,034	137,038	230	11.35	1.23
1925	19,969,041	173,140	186	9.31	1.07
1926	20,093,024	170,628	171	8.51	1.00
1927	21,108,978	165,213	181	8.57	1.10

## APPENDIX I—contd.

Table No. 7.

Aggregate horse power and purpose for use of electric motors installed both on the surface and underground at coal mines under the Indian Mines Act.

Coalfield.	Horse power on surface.						Horse power below ground.					Total horse power of motors installed.
	Winding.	Ventilation.	Haulage.	Coal washing or screening.	Miscellaneous.	Total.	Haulage.	Pumping.	Portable machinery.	Miscellaneous.	Total.	
Assam . . . . .	...	...	160	8	99	267	60	...	...	...	60	327
Bokaro . . . . .	200	75	100	...	156	531	...	585	30	...	615	1,146
Central Provinces . . . . .	...	...	16	...	67	83	40	450	60	1	551	634
Giridih . . . . .	...	120	...	110	347	577	362	2,423	80	2	2,537	3,414
Jharia . . . . .	2,566	545	2,221	406	3,919	9,657	5,605	13,962	3,260	513	23,360	33,017
Karaupura . . . . .	...	...	125	35	144	304	...	215	...	...	215	519
Raniganj . . . . .	2,620	980	866	264	289	5,021	4,267	8,662	2,341	191	15,461	20,482
Total . . . . .	5,388	1,720	3,490	823	5,021	16,440	10,354	26,297	5,741	707	49,099	59,539

Table No. 8.

Number of Mines under the Indian Mines Act, where electric power is used, and the aggregate horse power of electric motors installed.

Provinces.	Minerals worked.						Total horse power of motors installed.
	Coal.		Silver-Lead.		Sundry Minerals.		
	Number of mines.	Horse power.	Number of mines.	Horse power.	Number of mines.	Horse power.	
Assam . . . . .	2	327	...	...	...	...	327
Bengal . . . . .	48	17,149	...	...	1	50	17,199
Bihar and Orissa . . . . .	56	41,429	...	...	1	109	41,538
Bombay . . . . .	...	...	...	...	2	330	330
Burma . . . . .	...	...	2	2,995	4	1,372	4,367
Central Provinces . . . . .	2	634	...	...	6	861	995
Madras . . . . .	...	...	...	...	1	110	110
Punjab . . . . .	...	...	...	...	1	410	410
Total . . . . .	110	59,539	2	2,995	16	2,742	65,276

APPENDIX I—*concl'd.*

Table No. 9.

Number and type of coal-cutting machines at work in Coal Mines under the Indian Mines Act.

Maker.	British.	American.	Chain.	Bar.	Percussive.	Power.			Total number of machines.
						Electricity.		Compressed air.	
						A. C.	D. C.		
Goodman . . . . .	..	53	53	...	...	26	27	...	53
Hardiex . . . . .	5	..	...	...	5	...	...	5	5
Mavor and Coulson . . . . .	64	...	2	62	...	54	...	10	64
Siskol . . . . .	2	...	...	...	2	...	...	2	2
Sullivan . . . . .	...	17	17	...	...	17	...	...	17
<b>Total</b> . . . . .	<b>71</b>	<b>70</b>	<b>72</b>	<b>62</b>	<b>7</b>	<b>97</b>	<b>27</b>	<b>17</b>	<b>141</b>

Jharia coal-field . . . . .	69 machines	} Total number of square feet undercut 7,555,748.
Raniganj coal-field . . . . .	65 "	
Bokaro coal-field . . . . .	1 machine	
Central Provinces coal-field . . . . .	6 machines	

Table No. 10.

Number of mechanical ventilators in use at Coal Mines under the Indian Mines Act.

Assam.	Bengal.	Bihar and Orissa.	Central Provinces.	Punjab.	Total.
11	17	30	8	1	67

Table No. 11.

Number of safety lamps in use at Coal Mines under the Indian Mines Act.

Assam.	Baluchistan.	Bengal.	Bihar and Orissa.	Central Provinces.	Punjab.	Total.
1,665	6	9,130	6,790	6	8	17,600

412 were locked by screws, 8,394 by lead rivets and 8,794 by magnetic means.

APPENDIX I—*contd.*

Table No. 12.

Statement of explosives used during the year 1927 in mines under the Indian Mines Act.

Name of explosive.	Quantity of explosives used in lb. in :—								
	Coal Mines.	Mica Mines.	Manganese Mines.	Lead ore Mines.	Tin and Wolfram ore mines.	Limestone Mines.	Stone Mines.	Other Mines.	Total.
Dynamite . . . . .	163,639	99,134	47,713	1,164	5,917	2,732	35,442	60,876	416,617
Galignite . . . . .	79,605	122,084	96,604	145,150	890	8,448	20,470	13,037	492,318
Monobel . . . . .	151,709	...	...	...	...	...	...	...	151,709
Stonobel . . . . .	40,386	...	...	...	...	...	...	...	40,386
Robbinite . . . . .	20	...	...	...	...	...	...	...	20
Gunpowder . . . . .	1,948,642	45,713	150,149	..	...	106,433	15,033	155,414	2,506,384
Compressed gunpowder .	85,468	...	...	...	...	...	...	...	85,468
Number of detonators used.	1,120,808	844,124	780,846	331,735	77,340	84,682	246,662	267,968	3,704,385

**APPENDIX II.**  
**ACCIDENTS IN MINES.**

**Table No. 1.**  
**Fatal Accidents during the year 1927.**

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
<b>EXPLOSIONS AND IGNITIONS OF FIRE-DAMP—(1 death).</b>						
1	20th September, 11-30 A.M.	Murulidih mine, Mohuda P. O., Bihar and Orissa.	Bengal Coal Co., Ld.	Budhan Ray, (m.), 23, Coal-cutter.	Coal	Two miners went to work in a rise main gallery in which no one had worked for two days. Fire-damp had accumulated and was ignited by the open light carried by one of the miners. Both were severely burnt and one of them died some ten days later. Inspection and inquiry made. After the accident safety lamps were introduced throughout the whole of the mine.
<b>FALLS OF ROOF AND SIDES.</b>						
<b>(a) Falls of roof—(83 deaths).</b>						
2	2nd January, 7 A.M.	Charanpur mine, Charanpur P. O., Bengal.	Apcar Collieries, Ld.	Kedar Awasthi, (m.), 36, Coal-cutter.	Coal	Deceased was levering down loose coal from the corner of a pillar when a mass of roof coal, 8' x 2' x 1', fell from a height of 15 feet, killing him instantly. Inspection and inquiry made.
3	7th January, 6 P.M.	Dishergarh mine, Dishergarh P. O., Bengal.	Equitable Coal Co., Ld.	Mahabir Maharaj, (m.), 48, Sirdar.	Coal	Deceased was killed by a mass of roof coal, 6' x 2' x 2', which fell from a height of 8 feet. Inspection and inquiry made.
4	26th January, 9 A.M.	South Goluckdih mine, Jharis P. O., Bihar and Orissa.	South Goluckdih Coal Co.	Landva Bilaspuri, (m.), 25, Coal-cutter.	Coal	Deceased was cutting roof coal in a gallery, 8 feet high, when a mass of coal, weighing about 5 awt., fell from between two concealed and converging "slips". He was killed instantly. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1927—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
<b>FALLS OF ROOF AND SIDES—contd.</b>						
<b>(a) Falls of roof—(63 deaths)—contd.</b>						
5	27th January, 10 A.M.	South Kujama mine, Jharis P. O., Bihar and Orissa.	Bagdigi-Kujama, Collieries, Ltd.	Khadi Kola, (m.), 32, Coal-cutter.	Coal	Deceased passed through a fence and was sitting down in a gallery adjoining a pillar on which blasting was being done. A mass of roof coal, weighing about 6 cwt., fell and killed him on the spot. Had deceased not gone into the fenced off area, the accident would not have occurred. Inspection and inquiry made.
6	3rd February, 4 30 P.M.	Kustore mine, Kusunda P. O., Bihar and Orissa.	Ranegerunge Coal, Association, Ltd.	D. W. Green, (m.), 20, Mining Apprentices.	Coal	Deceased was killed by a mass of coal, 33' x 30' x 1' 6", which fell of a sooty parting in the roof of a gallery, 15' high. Inspection and inquiry made.
7	10th February, 7-30 P.M.	Serampur mine, Giridih P. O., Bihar and Orissa.	East Indian Rail- way.	Chuna Manjhi, (m.), 28, Coal-cutter.	Coal	In a place where pillar extraction had been commenced deceased, whilst robbing coal in a place which was fenced off, was struck by a mass of coal, 12' x 11' x 4', which fell from a height of 6 feet. He was killed instantly. Had deceased remained in his allotted working place, the accident would not have occurred. Inspection and inquiry made.
8	16th February, 7-10 A.M.	Jamadoba mine, Jcalgora P. O., Bihar and Orissa.	Tata Iron & Steel Co., Ltd.	Hariram, Bilaspuri. (m.), 38, Coal-Cutter	Coal	Deceased was working under the edge of some roof coal which had recently been blasted when a mass, weighing about 1 cwt., fell on him from a height of 10 feet. He sustained injuries from which he died twenty-two hours later. If the roof coal had been carefully tested after blasting the accident would have been avoided. Inspection and inquiry made.
9	17th February, 10-30 A.M.	Sripur mine, Kalipahari P. O., Bengal.	Lodna Colliery Co., (1920), Ltd.	Andhi Kniri, (m.), 37, Propping-Mistry.	Coal	In a depillaring section of a mine props were being withdrawn by the aid of a "Sylvester" machine. Deceased was using a crow-bar to release a tight prop when a piece of roof coal, 2' 6" x 2' x 1' 6" thick, fell on him from a height of 11 feet, causing fatal injuries. Inspection and inquiry made.

10	3rd March, 4 P.M.	Saltore mine, Dishergarh P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Tekon Teli, (m.) 28, Labourer.	Coal	In the process of hydraulic packing the workings of a coal seam, deceased was engaged in operating the pipe used for delivering the sand into the goaf, when a mass of roof-coal and stone, 30' x 20' x 2' 6", over-rode the supporting props, and fell. Deceased was struck down and killed instantly. Inspection and inquiry made.
11	8th March, 9 P.M.	Ramnagar mine, Kulti P. O., Bengal.	Bengal Iron Co., Ld.	Mukhi Mejhian, (f), 15; Sumati Mejhian, (f), 25, Labourers.	Coal	Whilst the deceased were loading coal which had illegally been cut from the side of a pillar a mass of roof coal, 10' x 5' x 3', fell upon them from a height of 9 feet. Inspection and inquiry made.
12	10th March, 2-30 P.M.	Bhowra mine, Jalgora P. O., Bihar and Orissa.	Eastern Coal Co., Ld.	Foota Manjhi, (m.), 25, Coal-cutter.	Coal	Deceased left his own working place and went to rob coal from the side of a gallery which was near to a loading station. After cutting the side to a depth of 2 feet he exposed a 'slip' in the roof from which a mass of stone, 3' x 1' 6" x 4", fell upon him, killing him instantly. Inspection and inquiry made.
13	18th March, 1 P.M.	Loyabad mine, Bansjora P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Sahadari Kurmin, (f.), 35, Coal-carrier.	Coal	Whilst deceased was loading coal which had been blown down by explosives on the previous day, a piece of coal, 5' x 5' x 2", fell on her head from a height of 25 feet. She sustained serious injuries and died one hour later. Inspection and inquiry made.
14	31st March, 3 P.M.	Bankola mine, Ukhara P. O., Bengal.	Burrakur Coal Co., Ld.	Digo Mahato, (m.), 20, Loader.	Coal	Whilst deceased was loading blasted coal he received fatal injuries by a slab of roof stone, 5' x 1' 3" x 4", falling upon him from a height of 11 feet. Inspection and inquiry made.
15	5th April, 5 A.M.	Bhalgora mine, Jharia P. O., Bihar and Orissa.	Bhalgora Coal Co., Ld.	Ismail Kunjra, (m.), 30, Labourer.	Coal	In the temporary absence of the gang head-man and contrary to his instructions, deceased commenced to load coal in a gallery 21 feet high where blasting had been done. About one ton of roof coal fell and killed him. Inspection and inquiry made.
16	5th April, 9-30 A.M.	Kankanee mine, Bansjora P. O., Bihar and Orissa.	Eastern Coal Co., Ld.	Shamial Chamaf, (m.), 39, Sirdar.	Coal	Whilst engaged in drawing timber a sirdar was killed by a slab of stone, 6' x 3' x 9", falling from a height of 6 feet. Inspection and inquiry made.
17	7th April, 11-30 A.M.	Tikak mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ld.	Loow Po, (m.) 42; Leoug Than, (m.), 47, Labourers.	Coal	The deceased were killed by an unexpected fall of roof coal in an "opening" or chamber, 30' x 20' x 24", in which they were loading coal. Inspection and inquiry made.



APPENDIX II—contd.

List of Fatal Accidents, during the year 1927—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
<b>FALLS OF ROOF AND SIDES—concl'd.</b>						
<b>(a) Falls of roof—63 deaths—contd.</b>						
18	14th April, 4 P.M.	Katras mine, Katragarh P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Tribhuban Malla, (m.), 25. Coal-cutter.	Coal	Whilst at work in a gallery deceased was struck down and killed instantly by a mass of stone, 9' x 7' 6" x 8", which fell from the roof—a height of 8½ feet. Inspection and inquiry made.
19	28th April, 11 A.M.	Newton Chiekl mine, Parasia P. O., Central Provinces.	Newton Chiekl Collieries, Ltd.	Guroo Khan, (m.), 22. Coal-cutter.	Coal	Deceased was boring a short hole into the corner of a pillar of coal when a mass of stone, 2½' x 2½' x 2', fell on him from a height of 6 feet. He was killed instantly. Inspection and inquiry made.
20	28th April, 2 P.M.	Kujama mine, Jharia P.O., Bihar and Orissa.	K. S. Nauji & Co.	Borki Mejhian, (f), 15, Coal-carrier.	Coal	Whilst a woman was loading coal in a gallery she was struck by a mass of coal, 18' x 12' x 2', which fell from the roof—a height of 12 feet. She was killed instantly. Inspection and inquiry made.
21	7th May, 6 A.M.	Kusore mine, Kusunda P. O., Bihar and Orissa.	Raseegunge Coal Association, Ltd.	Nakhi Lal Lalla, (m.), 42, Coal-cutter.	Coal	A miner was loading coal in a gallery, when a mass of roof coal, 16' x 7' x 3', fell from a height of 8 feet. A portion of the coal fell upon him with fatal effect. Inspection and inquiry made.
22	7th May, 6 P.M.	Sirka mine, Sirka P.O., Bihar and Orissa.	South Karanpura Coal Co., Ltd.	Lalija Teli, (m.), 15, Labourer.	Coal	An inclined tunnel from surface was being driven through soft ground when a fall of roof, 12' x 4' x 1', occurred. Deceased was killed and three other persons were injured. The temporary support provided proved to be inadequate. Inspection and inquiry made.
23	9th May, 5 P.M.	Begunia Khas mine, Barakar P.O., Bengal.	Maharaja of Kasim bazar.	Murath Meah, (m.) 35; Hari Meah, (m.), 30, Coal-cutters.	Coal	The deceased left their appointed working place, broke down a fence, and entered a goaf to extract some fallen coal. A mass of roof, 50' x 50' x 1', fell and killed them on the spot. Inspection and inquiry made.

24	9th May, 11 P.M.	Bhagrand mine, Salanpur P.O., Bengal.	Bengal Coal Syndi- cate.	Gira Bauri, (m.) 43, Coal-cutter.	Coal	Two miners left their appointed working place and passed through a fence to get some fallen roof coal at the edge of a goaf, when a mass of coal, 11' x 5' x 9', fell from a "slip" at a height of 12 feet. One of them was killed instantly and the other sustained slight injuries. Inspection and inquiry made.
25	10th May, 10-30 A.M.	Bara-Golai mine, Margherita P.O., Assam.	Assam Railways and Trading Co., Ld.	Sataya Tolinga, (m.) 24, Labourer.	Coal	Whilst coal was being loaded in an 'opening' or chamber, 28' x 28' x 20', several tons of coal fell without warning from a "slip" in the roof. Deceased was killed instantly. Inspection and inquiry made.
26	14th May, 1 P.M.	Pidh (No. 1 East) mine, Dan'ote P.O., Punjab.	Lala Ishar Dass Kapur.	Khuda Bakash, (m.) 70, Labourer.	Coal	Deceased was poking a goaf in a place 5½ feet high, when a mass of stone 2' x 1' x 6", fell from a concealed "slip". He sustained serious injuries and died a few hours later. Inspection and inquiry made.
27	15th May, 2-20 A.M.	Sendra mine, Banjora P.O., Bihar and Orissa.	Sendra Coal Co., Ld.	Jathu Bilaspuri, (m.) 50, Coal-carrier.	Coal	Whilst loading coal in a gallery deceased was struck and killed by a mass of coal (about 1 ton) which fell from the roof—a height of 19 feet. Inspection and inquiry made.
28	18th May, 7-45 A.M.	Lodna mine, Jharla P.O., Bihar and Orissa.	Lodna Colliery Co., (1920) Ld.	Kardhanian Bhuiyan, (f) 18, Coal-carrier.	Coal	Whilst deceased was loading a basket of coal in a gallery she was struck and killed by a piece of coal, 8' x 1' x 1', which fell from the roof—a height of 20 feet. Inspection and inquiry made.
29	6th June, 8-30 P.M.	Bara-Golai mine, Margherita P.O., Assam.	Assam Railways and Trading Co., Ld.	Sankardas Pankha, (m.) 28, Timberman.	Coal	Timbers were being replaced on a level road when a mass of roof coal, 8' x 8' x 0' to 8' thick, fell from a "slip". One of the timbermen was buried and killed. Inspection and inquiry made.
30	21st June, 11 A.M.	Ledo Valley west, Margherita P.O., Assam.	Assam Railways and Trading Co., Ld.	Lal Bahadur Hanna, (m.) 28, Coal-cutter.	Coal	Two miners were charging shot-holes in an "opening" or chamber, 40' x 30' x 15' high, when a mass of coal, 20' x 15' x 8', fell upon them from the roof. One was killed and the other was buried, but escaped without serious injury. Inspection and inquiry made.
31	23rd June, 4 P.M.	Katras mine, Katragarh P.O., Bihar and Orissa.	Barrakur Coal Co., Ld.	Jabri Bhuiyan, (f) 18, Coal-carrier.	Coal	Whilst a woman was loading coal in a gallery she was struck by a mass of coal, 15' x 9' x 2', which fell from the roof—a height of 7 feet. She was killed instantly. Inspection and inquiry made.
32	29th June, 1-45 P.M.	Tikak mine, Margherita P.O., Assam.	Assam Railways and Trading Co., Ld.	Manbahadur Lama, (m.) 22, Labourer.	Coal	In an "opening" or chamber, 32' x 16' x 17' high, coal was being loaded when a mass of coal fell prematurely from the roof and side. Deceased was struck down and killed. Inspection and inquiry made.

APPENDIX II—contd.

List of Fatal Accidents, during the year 1927—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
<b>FALLS OF ROOF AND SIDES—contd.</b>						
<b>Fall of roof (a)—(63 deaths)—contd.</b>						
33	2nd July, 12-30 P. M.	New Sindih mine, Katraagarh P. O., Bihar and Orissa.	New Sindih Coal Co., Ld.	Dhirendra Nath Biawas, (m.), 25, Head Overman.	Coal	Whilst deceased was superintending some repair work in a gallery he was struck by a mass of stone, 10' x 6' x 1' 3", which fell from the roof—a height of 4½ feet. He was killed instantly. Inspection and inquiry made.
34	30th July, 5-30 P. M.	Koshoram-Sathgram mine, Rauiganj P. O., Bengal.	Koshoram Poddar & Co.	Tulsi Meshian, (f), 45, Coal-carrier.	Coal	Deceased went into a fenced gallery to pick up some fallen coal when a mass of roof stone, 3' x 2' 6" x 8", fell on her from a height of 7 feet. She sustained serious injuries to which she succumbed a few hours later. If deceased had remained in her appointed working place the accident would not have occurred. Inspection and inquiry made.
35	3rd August, 9-30 A. M.	Lintons Angarpathra mine, Sijna P. O., Bihar and Orissa.	Lintons Angarpathra Colliery, Ld.	Allad Gorah, (m.), 35, Monca Gorah, (m.), 26, Coal-cutters; Surajmati Gorah, (f), 25, Coal-carrier.	Coal	A gang of six persons was loading coal from pillars under extraction when a mass of unsupported roof 30' x 10' x 6", fell from a height of 20 feet. Two of them were killed instantly and another was fatally injured. Had reasonable precautions been taken to support the roof the accident would not have occurred. Inspection and inquiry made.
36	7th August, 9 A. M.	Noonodih mine, Jealgora P. O., Bihar and Orissa.	Bengal Iron Co., Ld.	Behari Kola, (m.), 35, Banamali Kola, (m.), 40, Coal-cutters.	Coal	Whilst engaged in cutting coal from a pillar under extraction the deceased were struck by a mass of roof coal, 12' x 10' x 4' 8", which fell from a height of 7½ feet. They were killed instantly. Inspection and inquiry made.
37	11th August, 1-30 P. M.	Bansodepur mine, Kusundn P. O., Bihar and Orissa.	Bansodepur Coal Co., Ld.	Nathu Chamar, (m.), 30, Propping carpenter.	Coal	Whilst he was setting a prop in a depillaring area, deceased was struck on the head and fatally injured by a piece of roof coal, weighing about 50 lb., which fell from a height of 20 feet. Inspection and inquiry made.

38	27th August, 1 A. M.	Tikak mine, Margherita, P. O., Assam.	Assam Railways and Trading Co., Ltd.	Laloo Kachi, (m.), 30, Loader.	Coal	Whilst a loader was at work in an "opening" or chamber 33' x 35' x 25' high, a mass of coal, weighing about 10 cwt., fell prematurely. Deceased was struck down and killed. Inspection and inquiry made.
39	30th August, 11 P. M.	Central Kajora mine, Orda P. O., Bengal.	Central Kajora Coal Co., Ltd.	Padi Mojhan, (f), 27, Coal-carrier.	Coal	Deceased was carrying coal out of a gallery when a mass of stone, weighing about 4 tons, fell on her from between two "slips" at a height of 8 feet. She was killed instantly. Had supports been set against the "slips" the accident would have been avoided. Inspection and inquiry made.
40	17th September, 7-30 P. M.	Hurriladih mine, Jharia P. O., Bihar and Orissa.	Equitable Coal Co., Ltd.	Khamdar Manjhi, (m.), 30, Coal-cutter.	Coal	A miner was cutting roof coal, 6 feet thick, in a gallery, 7 feet high, when a mass of coal, 11' x 9' x 12', fell from a "slip". He sustained fatal injuries and another miner was seriously injured. Inspection and inquiry made.
41	22nd September, 4 A. M.	Joyramdanga mine, Asansol P. O., Bengal.	New Boerbhoom Coal Co., Ltd.	Dugai Kole, (m.), 30, Coal-cutter.	Coal	A miner engaged in extracting a pillar of coal was killed by the fall of about 3 cwt. of roof coal, from a height of 15 feet. Inspection and inquiry made.
42	28th September, 2 A. M.	New Baraboni mine, Charanpur P. O., Bengal.	New Baraboni Coal Concern.	Damra Manjhi, (m.), 26, Coal-cutter.	Coal	A miner was standing on a barrel, cutting roof coal in a depillaring area when the fall of a piece of coal upset the barrel and caused him to fall to the floor. Before he could recover himself he was struck and killed by a mass of roof coal, 5' x 2' 6" x 8', which fell from a "slip" at a height of 10 feet. Inspection and inquiry made.
43	4th October, 9 A. M.	Bawzaing mine, Buwssing P. O., Burma.	Shan States Silver Lead Corporation, Ltd.	Mg Mya, (m.), 28, Timberman.	Lead Silver,	Whilst at work in a stop, and engaged in resetting timber disturbed by blasting, he was killed by a fall of ground.
44	12th October, 2 P. M.	Jarandih mine Bokaro P. O., Bihar and Orissa.	B. B. & C. I. and M. & S. M. Rail- ways.	Tholur Aiyoo, (m.), 25, Coal-cutter.	Coal	Whilst two miners were at work at the face of an underground gallery, 8' wide and 6' high, there was a loud report and a simultaneous fall of about 1½ tons of coal from the roof. After the fall the existence of a "slip" running parallel with one side of the gallery was disclosed. Prior to the accident a small quantity of fire-damp was being given off. It was considered by the manager that the pressure exerted by gas was a contributory cause of the fall of coal. One of the men was killed and the other was seriously injured. Inspection and inquiry made.
45	13th October, 6 P. M.	Tajwala mine, Dhak P. O., Punjab.	Northern Coal Co., India	Bahadur, (m.), 40, Labourer.	Coal	Whilst deceased was cleaning out a roadway, 4' x 4', a piece of stone, 1' x 6" x 3' fell from a "slip" on to his back. He sustained injuries and died about two weeks later. Inspection and inquiry made.

APPENDIX II—*contd.*

List of Fatal Accidents, during the year 1927—*contd.*

Serial Number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, age, sex, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
<b>FALLS OF ROOF AND SIDES—<i>concl'd.</i></b>						
<b>(a) Falls of roof—(63 deaths)—<i>cont'd.</i></b>						
46	22nd October, 1.30 P. M.	Khas Jinagora mine, Jharia P. O., Bihar and Orissa.	G. P. O. & Com- pany.	Shukha Manjhi, (m.), 35, Coal-cutter. Chhuan Mejhian, (f.), 18, Coal-carrier.	Coal	Whilst the deceased were dressing the side of a gallery, they were struck by a mass of roof coal, 23' x 13' x 3' which fell from a height of 7 feet. They were killed instantly. Another miner was seriously injured. Inspection and inquiry made.
47	22nd October, 8 P. M.	Ledo Valley mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ld.	Khargey Kumi, (m.), 22, Loader.	Coal	Whilst a loader was at work in an "opening" or chamber 40' x 40' x 18' high, he was killed by stone which fell from the roof. Inspection and inquiry made.
48	12th November, 5 P. M.	Jainty Central mine, Karmatar P. O., Bihar and Orissa.	Jainty Central Colliery, Ld.	Gulu Meah, (m.), 33, Coal-carrier.	Coal	Whilst a loader was carrying coal a mass of shale, 9' x 9' x 8' thick, fell from the roof at a height of 6 feet, killing him instantly More careful examination of the roof might have prevented the accident. Inspection and inquiry made.
49	22nd November, 3 P. M.	Ledo Valley mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ld.	Dhaniram Kooch, (m.), 39, Coal-cutter.	Coal	Whilst three persons were lowering a slab of coal in an 'opening' or chamber, 5 feet high, the coal suddenly fell away. Deceased stumbled forward and was caught by the falling coal. He received injuries from which he died. Inspection and inquiry made.
50	24th November, 8 P. M.	Jainty Central mine, Karmatar P. O., Bihar and Orissa.	Jainty Central Colliery, Ld.	Ramjan Meah, (m.), 32, Oju Meah, (m.), 36, Coal-cutters; Aldin Meah, (m.), 18, Labourer.	Coal	At the junction of two underground galleries a mass of stone, 18' x 6' x 2' 6", fell from the roof at a height of about 9 feet. Three persons sitting underneath were killed on the spot, while two others walking along the road sustained slight injuries. The fall exposed a slip meeting a vertical joint in the roof. Inspection and inquiry made.

51	2nd December, 4-15 A.M.	Bawdwin mine, Namtu P. O., Burma.	Burma Corporation, Ld.	Lal Singh, (m.), 28, Miner.	Silver- lead.	Whilst a miner was shovelling ore into a chute a mass of ore, weighing 150 to 200 tons, broke away above the overhead lagging, causing the timbering of square sets to collapse. The man was buried by the debris and received fatal injuries. Inspection and inquiry made.
52	8th December, 1 A.M.	Damudapur mine, Nandi P. O., Bengal.	Bengal Coal Co., Ld.	Fanchoo Meah, (m.), 40, Coal-cutter	Coal	Whilst a miner was dressing down roof coal which had been loosened by a shot, a mass of coal, 6' x 3' x 3', fell prematurely from a height of 8 feet. The stool on which the miner was standing was knocked over and he was caught by the fall and killed instantly. Inspection and inquiry made.
53	17th December, 5 P.M.	Makerwal mine, Trag P. O., Punjab.	C. B. Potman and Iswar Dass Kapur.	K. Nushmir, (m.), 55, Coal-cutter.	Coal	Whilst cutting coal at the face of a longwall working a miner was fatally injured by a fall of roof.
54	23rd December, 7-30 P.M.	Loyabad mine, Bansjora P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Nanki Kolin, (f.), 18, Coal-carrier,	Coal	Whilst two women were loading coal at the face of a gallery one of them was struck by a mass of stone, 8' x 4' x 6', which fell from the roof, a height of 7 feet. She was killed instantly and the other woman was seriously injured. The place was known to be unsafe, but it had not been properly fenced to prevent access. Inspection and inquiry made.
55	30th December, 6 A.M.	Sripur mine, Kalipahari P. O., Bengal.	Lodna Colliery Co. (1920) Ld.	Etwari Turi, (m.), 31, Loader.	Coal	Whilst two loaders were filling their baskets with coal in a working place, about 10 cwt. of roof coal fell on them from a height of 9 feet. They were both severely injured, one of them dying a few hours later. Inspection and inquiry made.
(b) Falls of sides—(59 deaths).						
56	27th January, 10 A.M.	Khowra mine, Khowra P. O., Punjab.	Government of India.	Anor, (m.), 24, Mule driver.	Salt	Deceased with three other persons was setting timber supports in a drainage channel excavated in the bed of a gorge, when a portion of side fell and caused some of the supports to collapse. He was imprisoned and suffocated before he could be extricated. Inspection and inquiry made.
57	2nd February, 12-30 A.M.	Baltore mine, Dishergarh P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Gobinda Raari, (m.), 45, Coal-cutter.	Coal	Deceased was robbing coal from the corner of a pillar when a fall of side occurred, inflicting what appeared to be slight injuries. He died, however, later on the same day. Inspection and inquiry made.
58	2nd February, 12 noon.	Kandivli mine, Malad P. O., Bombay.	Bombay Develop- ment Department.	Naga Laxuman, (m.), 30, Miner.	Stone	Whilst at work in an open excavation, 15 feet deep, deceased was killed by a fall of side. Another man was slightly injured. Inspection and inquiry made.

APPENDIX II—contd.

List of Fatal Accidents during the year 1927—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
<b>FALLS OF ROOF AND SIDES—contd.</b>						
<i>(b) Falls of sides—(59 deaths)—contd.</i>						
59	18th February, 9-30 A.M.	Surangi mine, Domchanch P. O., Bihar and Orissa.	F. F. Christien & Co., Ltd.	Hujat Manjhi, (m.), 27, Driller.	Mica	Whilst at work in a quarry deceased was fatally injured by a mass of rock, 6' x 5' x 1' 6", which fell from the side. Had the supervision exercised by the subordinate officials been closer the accident might have been avoided. Inspection and inquiry made.
60	18th February, 2-30 P.M.	Balihari mine, Kusunda P. O., Bihar and Orissa.	Balihari Coal Co.	Dhania Gond Rajwar, (f.), 40, Labourer.	Coal	Deceased was killed by the fall of a slab of coal, 10' x 2' 6" x 1' 3", from the corner of a pillar. Inspection and inquiry made.
61	1st March, 10-30 A.M.	Talewadi mine, Tinaighat P. O., Bombay.	Eastern Mining Co.	Yella Gadoo, (m.), 26; Sattu Nagappa, (m.), 25; Goneh Chudappa, (m.), 23; Kallappa Lackam, Gowda, (m.), 26. Miners.	Manga- nese.	A gang of four miners was attempting to bar down a laterite boulder, 5' x 3' x 3', from a height of 7 feet on the face of a quarry 14 feet deep, while another gang of five persons was engaged in removing spoil from the bottom of the quarry. The boulder became dislodged sooner than was expected, and it rolled down and crushed the four deceased all of whom received fatal injuries and died within a few hours. Inspection and inquiry made.
62	9th March, 8-15 A.M.	Deoli mine, Dishegarh P. O., Bihar and Orissa.	Deoli Coal Co., Ltd.	Churu Manjhi, (m.), 26, Coal-cutter.	Coal	Deceased was engaged in cutting a coal face in a depillar- ing district, when a mass of coal fell away from the side near the roof, striking him on the head and causing instant death. Inspection and inquiry made.
63	11th March, 1-30 A.M.	South Bulliari mine, Kusunda P. O., Bihar and Orissa.	East Indian Coal Co., Ltd.	Talai Gopa, (m.), 35, Coal-cutter.	Coal	Whilst deceased was under-cutting coal at the corner of a pillar, he was severely injured by a mass of coal, 4' x 3' x 2' 6", which fell off a well defined "cleat." He died an hour later. The accident was due to lack of ordinary care on the part of deceased. Inspection and inquiry made.

64	11th March, 10-33A. M.	Chickla-Sitassongi mine, Dongri P. O., Central Provinces.	Central Provinces Manganese Ore Co., Ld.	Sibram, (m.), 45, Warina, (m.), 35, Bhikin, (m.), 35, Miners.	Manga- nese.	Whilst a number of persons were at work at the foot of a bench, 12 feet thick, a portion of the side, weighing about 16 tons, fell from the face and buried four of them. One of them was killed on the spot, two others were fatally injured, and three others were seriously injured. Inspection and inquiry made.
65	1st April, 5 P. M.	Doogdha mine, Nudkharkee P. O., Bihar and Orissa.	Keshab Chandra Barui.	Raghuni Malla, (m.), 24, Coal-cutter.	Coal	Whilst a miner was cutting coal in a quarry he was struck by a mass of overhanging shale 18' x 8' x 1', which fell from a height of 5 feet. He was fatally injured. Had the sides of the quarry been properly sloped the accident would not have occurred. Inspection and inquiry made.
66	16th April, 1-45 P. M.	Bhulanbararoo mine, Pathardih P. O., Bihar and Orissa.	Bhulanbararoo Coal Co., Ld.	Girdhari Gope, (m.), 20, Coal-cutter.	Coal	Two miners went through a fence for the purpose of robbing coal. A mass of several tons of coal fell from the side and killed one of them. Inspection and inquiry made.
67	26th April, 2-45 P. M.	North Anantapur mine, Vajrakarur P. O., Madras.	North Anantapur Gold Mines, Ld.	Savala Thimmappa, (m.), 35, Labourer.	Gold	After blasting had been done in a stope a mass of rock, weighing about 800 lb., fell unexpectedly from the hanging wall. Deceased was struck by the rock and killed instantly.
68	3rd May, 6 P. M.	Gopalchuck West mine, Kusunda P. O., Bihar and Orissa.	Gopalchuck Coal Co., Ld.	Duli Meah, (m.), 40, Coal-cutter.	Coal	A miner was struck and fatally injured by a mass of coal, 11' x 10' x 2', which fell from the side of a pillar. Had the side been properly examined and dressed the accident would not have occurred. Inspection and inquiry made.
69	7th May, 9 A. M.	Bhagora mine, Jharis P. O., Bihar and Orissa.	Bhagora Coal Co., Ld.	Khusi Chamar, (m.), Coal-cutter.	Coal	Whilst loading coal a miner was struck and fatally injured by a piece of coal, weighing about 80 lbs., which fell from the side of a pillar under extraction. Had the overhanging coal been taken down before persons were allowed to load coal the accident would not have occurred. Inspection and inquiry made.
70	14th May, 2-30 P. M.	Jamadoba mine, Jealgora P. O., Bihar and Orissa.	Tata Iron & Steel Co., Ld.	Panchu Turi, (m.), 19, Jagoo Turi, (m.), 25, Coal-cutters.	Coal	Two miners undercut the corner of a pillar under extraction, and were struck and fatally injured by a mass of coal, 9' x 8' x 1' 6", which fell upon them. Had the work proceeded from the top downwards the accident would not have occurred. Inspection and inquiry made.
71	26th May, 2 A. M.	Jinagora mine, Jharis P. O., Bihar and Orissa.	East Bararoo Coal Co.	Bhulla Rajwar, (m.), 35, Coal-cutter.	Coal	Deceased went through a fence and was robbing coal from the side of a pillar when a mass of coal, 10' x 4' x 2', fell from the side. He was struck down and received injuries which caused death two days later. Inspection and inquiry made.



APPENDIX II—contd.

Fatal Accidents, during the year 1927—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
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FALLS OF ROOF AND SIDES—contd.

(b) Falls of Sides—(69 deaths)—contd.

72	6th June, 2-30 P. M.	Loyabed mine, Bansjora P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Takori Koari, (m.), 24, Stone-cutter.	Coal	Whilst a miner was engaged in roof repair work on a haulage incline he was struck and fatally injured by a mass of stone, 5' x 2' x 1' 8", which fell from the side—a height of 4 feet. Inspection and inquiry made.
73	10th June, 8 P. M.	Myogyi mine, Toungoo P. O., Burma.	Abbid Ali	Mang Datch, (m.), 50, Labourer.	Igneous Rock.	Deceased was killed by a fall of side in an open quarry.
74	14th June, 1 P. M.	Moheshpur mine, Katragarh P. O., Bihar and Orissa.	Kharkharee Col- lieries, Ld.	Nundhia Ghatwalin, (f.), 24, Coal-carrier.	Coal	Deceased had accompanied her husband into a fenced gallery and was engaged in loading coal robbed therefrom. A heavy fall of side occurred and a large piece of coal, striking deceased on the head, killed her instantly. Inspection and inquiry made.
75	5th July, 11-15 A. M.	Namdang mine, Margherith P. O., Assam.	Assam Railways & Trading Co., Ld.	Mohomedin Pathan, (m.), 25, Budhia Gora, (f.), 45, Labourers.	Coal	The deceased were killed by a fall of some eight tons of coal from the side of a quarry. Inspection and inquiry made.
76	9th July, 11-30 A. M.	Ekra Khas mine, Bansjora P. O., Bihar and Orissa.	Maharaja of Kazim- bazar.	Thakur Manjhi, (m.), 35, Coal cutter.	Coal	A miner was robbing coal from the corner of a pillar when a triangular column of coal, weighing about a ton, fell away from the side and struck him, causing injuries which afterwards proved fatal. Inspection and inquiry made.
77	28th July, 10-45 A. M.	Kargali mine, Bokaro P. O., Bihar and Orissa.	Great Indian Penin- sula Railway.	Sobharam Rohidas, (m.), 45, Coal-cutter.	Coal	Whilst miners were engaged in cutting coal in the bottom of a railway cutting in a quarry a shower of rain came on and they left the place to take shelter. One of them returned to take away a pick and just then a portion of the side of the cutting fell away from a slip at a height of about 20 feet. He was struck by the falling coal and sustained injuries which proved fatal on the following day. Inspection and inquiry made.

78	4th August, 10-30 A.M.	Lodna mine, Jharia P. O., Bihar and Orissa.	Lodna Colliery Co., Ld. (1920).	Dharmu Ram, (m.), 31, Coal-cutter.	Coal	Whilst deceased was standing on a ladder, stemming a shot-hole in a pillar, 31 feet high, a mass of coal, 14' x 9' x 3', fell from the side. Deceased was thrown from the ladder and killed instantly by the falling coal. Inspection and inquiry made.
79	11th August, 4 30 A.M.	Bansdeopur mine, Kusunda P. O., Bihar and Orissa.	Bansdeopur Coal Co., Ld.	Shamarn Chamar, (m.), 40, Coal-cutter, Srimanti Chama- rin, (f.), 36, Coal-carrier.	Coal	Three miners entered a fenced area and were undercutting the side of a pillar when a mass of coal, 7' x 12' x 3', fell upon them from a height of 5 feet. Two of them were fatally injured and the third was seriously injured. Inspection and inquiry made.
80	21st August, 2-30 A.M.	Simlabahal mine, Jharia P. O., Bihar and Orissa.	Bhalgora Coal Co., Ld.	Bhir Sha Kurmi, (m.), 45, Coal-cutter.	Coal	Whilst a miner was illegally loading coal in a fenced gallery he was struck and fatally injured by a slab of coal, 3' 6" x 8' 6" x 1', which fell from the side at a height of 5 feet. Inspection and inquiry made.
81	22nd August, 2-30 P.M.	Serampur mine, Giridih P. O., Bihar and Orissa.	East Indian Rail- way.	Ako Mesh, (m.), 28, Coal-cutter.	Coal	Whilst a miner was standing on a ladder and cutting coal near the top of a pillar, 30 feet high, a mass of coal, 20' x 12' x 2', fell from the side. The ladder was knocked over and the man was thrown to the floor and fatally injured. Inspection and inquiry made.
82	28rd August, 3 P.M.	Sendra mine, Bansjora P. O., Bihar and Orissa.	Sendra Coal Co., Ld.	Bhartha Bilaspuri, (m.), 35, Coal-cutter.	Coal	Whilst deceased was dressing the side of a pillar which had become insecure as a result of shot-firing, a mass of coal, 3' x 2' x 3', fell on him from a height of about 5 feet, inflicting fatal injuries. Inspection and inquiry made.
83	50th August, 4-30 P.M.	Jamadoba mine, Jalgora P. O., Bihar and Orissa.	Tata Iron & Steel Co., Ld.	Mukhia Turia, (f.), 30, Coal-carrier.	Coal	Whilst a woman was loading a basket near a pillar under extraction she was struck and fatally injured by a mass of coal, 3' x 4' x 3', which fell from the side. Inspection and inquiry made.
84	2nd September, 1 P.M.	Napur mine, Haniganj P. O., Bengal.	Napur Coal Co., Ld.	Lala Pasi, (m.), 44, Coal-cutter.	Coal	Whilst standing on a pile of loose coal, dressing down side coal with a crowbar, a miner overbalanced and fell forward. At the same time about 3 cwt. of loosened side coal fell on him from a height of 7 feet. He was severely injured and died eight hours later. Inspection and inquiry made.
85	4th September 6-30 A.M.	Malkera mine, Katrasgarh P. O., Bihar and Orissa.	Tata Iron & Steel Co., Ld.	Jagatram Rohidas, (m.), 33, Coal-cutter.	Coal	A miner, having entered a fenced gallery, was cutting coal from a pillar, when a fall of side, 5' x 6' x 1' 6", occurred. He was killed instantly. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1927—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
<b>FALLS OF ROOFS AND SIDES—contd.</b>						
<i>(b) Falls of Sides—(59 deaths)—contd.</i>						
86	10th September, 10 A.M.	Tarki mine, Tarki P. O., Punjab.	Government of Punjab (P. W. Department).	Sakhi; (m.), 22; Mirah, (m.), 35; Fazlo, (m.), 40; Faiza, (m.), 46; <i>Barik-cullers.</i>	Lime- stone.	A number of persons were sitting in the shade of a railway cutting under construction when a small fall of ground from the side of the cutting partly buried two of them. Whilst rescue work was in progress there was a further and larger fall which completely buried them and two of the rescue gang. Had the sides of the cutting been properly sloped the accident would probably have been avoided. Inspection and inquiry made.
87	15th September, 9-30 A.M.	Benahir mine, Jharia P. O., Bihar and Orissa.	Standard Coal Co., Ld.	Sukhada Bourin, (f.), 35, <i>Coal-carrier.</i>	Coal	Whilst a woman was loading a basket in a gallery she was struck and fatally injured by a mass of coal which fell from the side of a pillar. A fellow-worker was seriously injured. Inspection and inquiry made.
88	16th September, 11 A.M.	Tirody mine, Tirodi P. O., Central Provinces.	Tirody Manganese Ore Co., Ld.	Chahlo Tanti, (m.), 35, <i>Miner.</i>	Manga- nese.	Whilst a miner was barring down loose rock in a quarry a piece of stone, 12' x 8' x 6", fell upon his foot from a height of about 3 feet. He was seriously injured and died of 'tetanus' fifteen days later. Inspection and inquiry made.
89	21st September, 6-45 A.M.	Bawdwin mine, Namtu P. O., Burma.	Burma Corporation Ld.	Tain Se Hwa, (m.), 24, <i>Miner.</i>	Silver- Lead.	Whilst a miner was putting up a set of timber, a fall of ground occurred and a prop was knocked out. The prop struck the miner on the head, inflicting fatal injuries. Inspection and inquiry made.
90	28th Sep- tember, 10 A.M.	Barares mine, Jalgora P. O., Bihar and Orissa.	East Indian Coal Co., Ld.	Megh Nath, (m.), 38, <i>Coal-cutter.</i>	Coal	A miner was dressing the corner of a pillar with a crowbar when he released a mass of coal, 4' x 3' x 1' 6", which fell on him and caused fatal injuries. Had he used a ladder as instructed, the accident would have been avoided. Inspection and inquiry made.

91	11th October, 5-30 P.M.	Benahir mine, Jharlia P. O., Bihar and Orissa.	Standard Coal Co., Ld.	Giree Baurin, (f.), 30, Labourer.	Coal	In a section of a mine where pillars were being extracted, a gang of loaders was sitting on a tram line waiting for empty tubs when a piece of coal, 8' x 10' x 9' fell from the corner of a pillar 27 feet in height. A woman was struck on the head and killed instantly. Inspection and inquiry made.
92	14th October, 10-30 A.M.	Ramrama mine, Bharweli P. O., Central Provinces.	Central Provinces Manganese Ore Co., Ld.	Sambhoo, (m.), 50, Miner.	Manga- nese.	Whilst a miner was carrying a load of ore in a quarry he was struck and fatally injured by a lump of ore, 2' x 2' x 2', which other miners had levered down from the edge of a bench 15 feet above. Proper warning had been given but he had disregarded it. Inspection and inquiry made.
93	19th October, 11-30 A.M.	Parbelia mine, Dishergarh P. O., Bihar and Orissa.	Bengal Coal Co., Ld.	Bipini Nuniani, (f.), 26, Labourer.	Coal	A woman was filling a basket with coal in a working place when she was fatally injured by a slab of coal, 4' x 3' x 1', which fell on her from the face. Inspection and inquiry made.
94	20th October, 4 P.M.	Mudidih mine, Sijua P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Mongar Meah, (m.), 35, Coal-cutter.	Coal	A lofty pillar of coal was being prepared for extraction, and a miner was engaged in cutting a ledge around the top of it. He released a mass of coal which fell against and dislodged a prop, 23 feet in length, and in falling the prop struck and killed instantly another miner who was standing nearby. Inspection and inquiry made.
95	24th October, 2-20 P.M.	Sorampur mine, Giridih P. O., Bihar and Orissa.	East Indian Rail- way.	Tojo Meah, (m.), 16; Akbar Meah, (m.), 15, Coal-cutters.	Coal	In a depillaring section of a mine a gang of coolies was engaged in carrying coal when a mass of coal, weighing about 10 tons, fell upon them. Two of them were fatally injured and two sustained slight injuries. If they have followed the proper carrying road instead of a short cut which was fenced to prevent its use the accident would not have occurred. Inspection and inquiry made.
96	14th November, 5-30 P.M.	Lutchipur mine, Sitarampur P. O., Bengal.	Burrakur Coal Co., Ld.	Mongla Manjhi, (m.), 16, Coal-cutter.	Coal	A miner passed through a fence to load loose coal. Whilst doing so, a mass of side coal, 7' x 6' x 1' 6", fell from the side and fatally injured him. Inspection and inquiry made.
97	11th December, 9 A.M.	Jinagora mine, Jharlia P. O., Bihar and Orissa.	New Jinagora Coal Co., Ld.	Bhim Kora, (m.), 38, Coal-cutter.	Coal	At the commencement of the extraction of a pillar in a seam 10 feet thick, coal was being cut by three miners from one of the corners of the pillar when a mass of coal, 8' x 4' x 12", fell from the side. One of the men was buried and fatally injured. Inspection and inquiry made.

APPENDIX II—contd.

Fatal Accidents during the year 1927—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
<b>FALLS OF ROOF AND SIDES—contd.</b>						
<i>(b) Falls of Sides—(59 deaths)—concl'd.</i>						
98	14th December, 4 A.M.	Victoria mine, Kulti P. O., Bengal.	New Birbhun Coal Co., Ld.	Maina Mejhian, (f.), 18, Labourer.	Coal	A female loader was severely injured by a mass of some 10 cwt. of coal which fell upon her from the side of a pillar of coal, 9 feet high. She died two days later. There was a strong suspicion that at the time of the accident she was loading coal which had been illegally cut from the side of the pillar. Inspection and inquiry made.
99	16th December, 4-30 P.M.	Karharbari mine, Giridih P. O., Bihar and Orissa.	East Indian Railway.	Madhu Gope, (m.), 45, Coal-cutter.	Coal	Whilst miners were engaged in extracting a pillar of coal, roof "weight" was heard in an adjacent goaf. The sirdar withdrew the men but one of them returned to recover a tool, and was killed instantly by a mass of coal and stone weighing about one ton which fell from the side of the pillar. Inspection and inquiry made.
100	19th December, 8-30 P.M.	Bawdwin mine, Nantua P. O., Burma.	Burma Corporation, Ltd.	Sova Khar, (m.), 31, Miner.	Silver-Lead.	A miner was setting timber in an underhand stope when he was struck on the head and fatally injured by a fall of ore weighing about $\frac{1}{2}$ ton, from a height of about 5 feet. Inspection and inquiry made.
101	28rd December, 4-15 P.M.	Bagdiggi mine, Jharis P. O., Bihar and Orissa.	Villiers, Ld.	Chota Khedan Bhuiya, (m.), 28, Timberman.	Coal	In a gallery, 30 feet high, a gang of persons was preparing to re-set some props which had been dislodged during blasting, when a mass of coal, weighing about 3 tons, fell from the side of a pillar from between two "slips" at a height of 24 feet. One of the men was killed on the spot and another was seriously injured. Inspection and inquiry made.
102	24th December, 3-30 P.M.	Lodna (Nos. 4 & 5 Pits) mine, Jharis P. O., Bihar and Orissa.	Lodna Colliery Co., (1920), Ld.	Bangali Mallick, (m.), 20, Labourer.	Coal	Whilst a workman was cleaning out the "cuttings" in a machine-cut gallery he was fatally injured by a mass of undercut coal, weighing about 7 tons, which fell from between two concealed "slips". After the accident a system of supporting undercut coal by wedges was introduced. Inspection and inquiry made.

IN SHAFTS (OVERWINDING)—(1 death).

103	12th October, 11-30 A.M.	Adjai Second mine, Charanpur P. O., Bengal.	Adjai Second Coal Co., Ltd.	Gajoo Manjhi, (m.), 35, Syker.	Coal	An experienced winding engine-man lost control of a sinking bucket and lowered it violently to the bottom of a shaft, 75 feet deep, where 12 persons were at work. The bucket struck one of the men and fatally injured him. Inspection and inquiry made.
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IN SHAFTS (WHILST ASCENDING OR DESCENDING BY MACHINERY)—(2 deaths).

104	25th January, 10-30 A.M.	Kendwadih mine, Jalagora P. O., Bihar and Orissa.	Hurriladih Coal Co., Ltd.	Bankar Manjhi, (m.), 23, Coal-cutter.	Coal	Whilst descending a shaft, 230 feet deep, deceased fell from the cage to the bottom of the shaft. He was killed instantly. One of the rigid gates fitted to the cage in conformity with the Regulations had become damaged and had been replaced temporarily by a chain. Inspection and inquiry made.
105	4th May, 4-30 A.M.	Bararee mine, Jalagora P. O., Bihar and Orissa.	East Indian Coal Co., Ltd.	Budri Singh, (m.), 32, Coal-cutter.	Coal	Whilst deceased was ascending a shaft, 300 feet deep, he fell from the cage to the shaft bottom and was killed instantly. Inspection and inquiry made.

IN SHAFTS (FALLING DOWN SHAFTS)—(4 deaths).

106	16th May, 11-20 P.M.	Bawdwin mine, Namtu P. O., Burma.	Burma Corporation, Ltd.	Ai Hone, (m.), 31, Miner.	Silver- Lead.	A gang of four miners was engaged in installing a ladder-way in a winze. Owing to the breakage of a rope two of them were precipitated down the winze, a depth of 50 or 60 feet, one receiving serious and the other fatal injuries. The inquiry disclosed the fact that the operation was not being conducted under expert supervision, and that those engaged on the work were not properly informed as to the method of procedure. Inspection and inquiry made.
107	22nd June, 12-45 P.M.	Mawsons mine, Bawsaing P. O., Burma.	Steel Brothers & Co., Ltd.	Mg Htaik, (m.), 22, Timberman.	Lead- Silver.	Whilst at work in a shaft, 332 feet deep, a timberman lost his footing and, falling to the bottom of the shaft, was killed.
108	30th June, 4 to 5 A.M.	Newton Chickil mine, Parasia P. O., Central Provinces.	Newton Chickil Collieries, Ltd.	Sura Parsad, (m.), 20, Labourer.	Coal	The body of deceased was found at the bottom of a shaft, 145 feet deep. He had been employed at night in removing ashes from a boiler near the top of the shaft. It was presumed that he had been sleeping on the top of the walling surrounding the shaft. To reach this place it was necessary to cross a triple wire fence. Inspection and inquiry made.

**APPENDIX II—contd.**

**Fatal Accidents during the year 1927—contd.**

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
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**IN SHAFTS (FALLING DOWN SHAFT) (4 deaths)—contd.**

109	21st November, 2 P.M.	Kustore mine, Kusunda P. O., Bihar and Orissa.	Raneegunge Coal Association, Ltd.	Saina Bux, (m.), 88, Shaftman.	Coal	In the process of greasing a winding rope a shaftman was standing on two planks supported by two girders placed across the top of a shaft 16 feet in diameter and 500 feet deep. The ascending skip at the other side of the shaft was not stopped in time; it struck the girders and upset the scaffold causing the man to be precipitated to the bottom of the shaft. The accident was directly due to the negligence of the signalman, but a more secure scaffold should have been used. Inspection and inquiry made.
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**IN SHAFTS (THINGS FALLING DOWN SHAFT)—(2 deaths).**

110	16th February, 4 A.M.	Pinalgoria mine, Nawagarh P. O., Bihar and Orissa.	Jivan Gangji	Goorooji, (m.), 43, Sinker.	Coal	The debris from a sinking shaft, 60 feet deep, was being raised in a cane basket which was suspended from the rope by two loops of iron wire $\frac{1}{4}$ inch thick. As a loaded basket was being raised one of the wires broke and the contents of the basket fell out. Deceased was struck on the head by a piece of stone weighing about 20 lbs. and was killed instantly. A stronger material should have been used for attaching the basket to the rope. Inspection and inquiry made.
111	24th November, 5 P.M.	Gazlitan mine, Sijua P. O., Bihar and Orissa.	New Manbhumi Coal Co., Ltd.	Mongru Bhuiya, (m.), 29, Trolleyman.	Coal	A trolleyman was about to pull out an empty tub from a cage standing at the bottom of a shaft, 340 feet deep, when he was struck on the head by a piece of coal, weighing 4 lb. which had fallen from the surface. He was killed instantly. If the clearance between the protective roofing and the cages had been less, the accident would probably have been avoided. Inspection and inquiry made.

**IN SHAFTS (MISCELLANEOUS)—(1 death).**

112	16th July, 9-30 A.M.	Khas Jiuagora, Jharia P. O., Bihar and Orissa.	G. P. C. and Co.	Gagu Bha, (m.), 22, Surface apprentices.	Coal	Deceased put his head into a cage which was just being lowered from the pit bank at the top of a winding shaft. His head was crushed between the top of the cage and the landing platform and he was killed instantly. Inspection and inquiry made.
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**SUFFOCATION BY GASES—(9 deaths).**

113	26th May, 12-30 A.M.	Bawdwin mine, Nanta P. O., Burma.	Burma Corporation, Ld.	Dasi Bohra, (m.), 26; Dhauri Bohra, (m.), 23; Gardin, (m.), 81; Taguwar, (m.), 26; Niban Chandra Dey, (m.), 28; .. Miners.	Silver- lead.	The deceased were employed in the face of a drive. A fall of ground occurred which completely cut off their only means of egress. The hot gases from a sealed-off fire filtered into the space in which they were imprisoned and they were suffocated before it was possible to liberate them. Inspection and inquiry made.
114	27th June, 7 A.M.	Harraya mine, Tieri P. O., Bihar and Orissa.	F. F. Christian & Co., Ld.	Sumar Roy, (m.), 35, Sirdar; Naroo Roy, (m.), 20, Driller; Daulat Roy, (m.), 45, Agricultural labourer.	Mica	A Sirdar accompanied by a miner descended a disused shaft, 40 feet deep, and was overcome by foul gas. The miner attempted to help the Sirdar and was himself overcome. The father of the miner subsequently went down to the rescue and was in his turn overcome. If the simple precaution of lowering a light to test the air had been taken the accident would have been avoided. Inspection and inquiry made.
115	16th July, 5 P.M.	Sor Range (Lease No. 11) mine, Quetta P. O., Baluchistan.	Essajee & Sons.	Aslam, (m.), 40, Coal-cutter	Coal	Deceased entered a gallery which had been fenced on account of an accumulation of black damp from an adjoining goaf. He was suffocated. Inspection and inquiry made.

**BY EXPLOSIVES—(27 deaths).**

116	21st January, 8-30 A.M.	Kendwadih mine, Kusunda P. O., Bihar and Orissa.	East Indian Co., Ld.	Coal	Chinta Gope, (m.), 35; Dhajoo Rai, (m.), 25, Coal-cutters; Manoo Rai, (m.), 30, Shot-firer.	Coal	A shot-firer and three other persons were engaged in blasting down overhanging coal from the corner of a pillar. The shot-hole was near the roof of the working, and access to it was obtained by means of a ladder. After the fuse had been lighted and the ladder removed, but before they had reached a place of safety, the charge exploded and the blasted coal was thrown over them. Chinta Gope was killed instantly, Dhajoo Rai succumbed to his injuries two hours later and the shot-firer died two days later. If a longer fuse had been used the accident would probably have been avoided. Inspection and inquiry made.
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APPENDIX II—contd.

Fatal Accidents during the year, 1927—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
<b>BY EXPLOSIVES—(27 deaths)—contd.</b>						
117	21st January, 1-30 P.M.	Bhajperi mine, Parasia P. O., Central Provinces.	Amalgamated Coal- fields, Ltd.	Mangal Singh, (m.), 28, Coal-cutter.	Coal	In an underground pillar cutting section of a mine a shot- firer lighted three shots. After two had exploded he moved away a short distance, and before the third shot went off a miner returned to the place. When the third shot exploded the miner was fatally injured. Inspection and inquiry made.
118	10th February, 7-30 A.M.	Gua mine, Mahudi P. O., Bihar and Orissa.	Indian Iron and Steel Co., Ltd.	Lobin, (m.), 40, Labourer.	Iron Ore	During blasting operations deceased, who had taken refuge behind a building at a point about 450 feet away, was struck on the head by a piece of ore weighing about 5 lb. which have penetrated the iron roof of the building. He sustained fatal injuries. Inspection and inquiry made.
119	10th March, 12-15 A.M.	Bonahir mine, Jharis P. O., Bihar and Orissa.	Standard Coal Co., Ltd.	Niamat Meah, (m.), 45, Sirdar.	Coal	A Sirdar on his rounds, in taking a shortcut to some working places, went through a fence and came to a place where a shot had been lighted. The shot went off, and he was fatally injured. Had deceased travelled by the usual road or had the appro- ches been sufficiently watched the accident would not have occurred. Inspection and inquiry made.
120	8th April, 4-30 P.M.	Mokpalin mine, Mokpalin P. O., Burma.	Government of Burma, P. W. Department.	Chit Hla, (m.), 20, Quarryman.	Stone	A quarryman rammed a drill into an old shot-hole for the purpose of ascertaining its depth, when an explosion occurred, and he received fatal injuries. A fellow workman sustained serious injuries. Inspection and inquiry made.
121	14th April, 5-30 P.M.	East Barkuhi, Parasia P. O., Central Provinces.	Syed Hazi Zahir- uddin.	Ratiram Gond, (m.), 25, Coal-cutter.	Coal	One of two gunpowder shots in a gallery failed to explode, and the shotfirer put up a temporary fence and warned all persons in the neighbourhood. Deceased disregarded the warning and entered the place. The charge exploded and he sustained fatal injuries. Inspection and inquiry made.

123	10th June, 12 A.M.	Netra mine, Katanghari P. O., Central Provinces.	Indian Manganese Co., Ltd.	Sukka, (m.), 30, Wadesi, (m.), 35, Labourers.	Manga- nese.	Whilst a number of persons were employed in removing stone after blasting in a quarry a blow from a crowbar used by one of them brought about the explosion of the residue of a partly exploded charge of dynamite. Sukka succumbed to his injuries within an hour and Wadesi died seventeen days later; one person was seriously injured and four others received minor injuries. Inspection and inquiry made.
123	18th July, 6-30 A.M.	Bhulanbararee mine, Pathardih P. O., Bihar and Orissa.	Bhulanbararee Coal Co., Ltd.	Behari Kol, (m.), 35, Coal-cutter.	Coal	Deceased was making up gunpowder into cartridges on the verandah of his dwelling. A spark from a nearby fire ignited the powder and he received injuries in the form of severe burns, from which he died on the following day. Inspection and inquiry made.
124	18th July, 9-30 A.M.	Mudidih mine, Sijna P. O., Bihar and Orissa.	Burrakur Coal Co., Ltd.	Ghubigar Kanu, (m.), 35, Coal-cutter.	Coal	A miner was drying gunpowder over a fire in a dwelling house, when the powder became ignited, and he sustained fatal burning injuries. Taking gunpowder into a dwelling is against the Regulations. Inspection and inquiry made.
125	30th July, 6-30 P.M.	Udwada mine, Udwada P. O., Bombay.	Bombay, Varoda and Central India Railway Co.	Beraji Kanji, (m.), 26, Manager.	Stone	The manager of a stone quarry, after giving orders for blasting, was on his way home when at a distance of about 600 feet from the mine he was struck on the head and fatally injured by a fragment of rock projected by a blast. Inspection and inquiry made.
126	26th August, 9-45 A.M.	Kachhidhana mine, Saonor P. O., Central Provinces.	Indian Manganese Co., Ltd.	Iyappan Tian, (m.), 35, Driller.	Manga- nese.	Whilst a driller was clearing out broken rock from the socket of a shot hole, the residue of the charge exploded. He was fatally injured. Tampering with sockets left after blasting is a breach of the Regulations. Inspection and inquiry made.
127	18th October, 1-30 P.M.	Kyauktalone mine, Kyauktalone P. O., Burma.	Ibrahim Contractor	Halu, (m.), 35; Mg. Kan Gyi, (m.), 17; Nagia Raja, (m.), 32; Mg. Aung Shwe, (m.), 25; Mg. Pa Pa, (m.), 18; Anando, (m.), 60; Labourers. Fazil Mohamed, (m.), 25, Blasting Jema- dar.	Lime- stone.	During the preparation of blasting charges in a quarry an explosion of 15 lb. of gelignite occurred. Six persons were killed, one was fatally injured and eighteen were seriously injured. Although the precise cause could not be ascertained, there is no doubt that had operations been conducted in accordance with the requirements of the regulations the accident would have been avoided. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1927—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
<b>BY EXPLOSIVES—(27 deaths)—<i>contd.</i></b>						
129	14th October, 1-15 p.m.	Loyabad mine, Bansjora P. O., Bihar and Orissa.	Barrakur Coal Co., Ld.	Dayal Singh, (m.), 40, Coal-cutter.	Coal	In a gallery, 7 feet high, in which roof coal, 7 feet thick, was being blasted down two shots of country gunpowder were being fired near the roof. Ladders were used and whilst they were being removed one of the shots exploded. No one was injured by this explosion, but all lights were extinguished, and in the confusion which resulted one of the men ran back to the place and was killed instantly by the coal which fell when the second shot exploded. It was presumed that one of the fuses used had been too short. Inspection and inquiry made.
129	20th October, 3-30 p.m.	Kustoro mine, Kusunda P. O., Bihar and Orissa.	Raneengunge Coal Association, Ld.	Jhuban Dasadh, (m.), 45, Stone-cutter.	Coal	Whilst a miner was wedging up floor coal he drove the wedge into the unexploded residua of a charge of gelignite. An explosion resulted and he was fatally injured. Inspection and inquiry made.
130	27th October, 12 noon.	Patrahin mine, Tiari P. O., Bihar and Orissa.	J. S. Mull & Co.	Ghansyam Roy, (m.), 22, Miner.	Mica	Twenty-five shots had been fired at the bottom of an inclined shaft, 250 feet deep. On the following morning, whilst a miner was operating a compressed air drill, the point of the latter penetrated a charge which had misfired on the previous evening. The charge exploded, and the miner was killed instantly. Another miner was seriously injured. When electric detonators are not used twenty-five shots is too many to fire at one time. Had a fewer number been fired and the reports properly counted, the accident would have been avoided. Inspection and inquiry made.
131	21st December, 11 p.m.	Teetulmuri mine, Sijua P. O., Bihar and Orissa.	Barrakur Coal Co., Ld.	Nauka Mandal, (m.), 30, Stone-cutter.	Coal	Two stone cutters commenced to drill in the socket of an old shot-hole in which, unknown to them, part of a charge of dynamite had remained unexploded. An explosion occurred and the drill, which was projected from the hole with great force, pierced one of them and killed him instantly. Inspection and inquiry made.

182	28rd December, 4 A.M.	Sendra-Bansjora mine, Bansjora P. O., Bihar and Orissa.	Sendra-Bansjora Colliery Syndicate.	Fulsa Bilaspuri, (m.), 40, Sirdar.	Coal	After igniting a shot a sirdar waited a few minutes and then returned to the place presuming that the shot had misfired. The shot exploded and he was killed by the coal which was blown down. Inspection and inquiry made.
183	31st December, 12-15 P.M.	New Sindih Mine, Katrasgarh P. O., Bihar and Orissa.	New Sindih Coal Co., Ltd.	Jageswar Singh, (m.), 34, Stone-cutter.	Coal	In a gallery in which a charge of explosive had misfired a miner had been ordered and had commenced to drill a relieving hole when an explosion occurred and he was fatally injured. It was presumed that he had been attempting to withdraw the misfired charge. Inspection and inquiry made.
HAULAGE—(24 deaths).						
184	1st January, 1-30 P.M.	Jatachappa mine, Parasia P. O., Central Provinces.	Amalgamated Coal- fields Ltd.	Samalia Badai, (m.), 38, Labourer.	Coal	Instead of sheltering in the adjacent manhole deceased stood between a tramline and the side of an underground road while two loaded and spragged tubs were being brought down a grade. The front tub struck a rail lying by the side of the track, and derailed. Its contents were thrown over deceased causing injuries from which he died within a few hours. Inspection and inquiry made.
185	8th January, 9 A.M.	Victoria Mine, Kulti P. O., Bengal.	New Beerbhoom Coal Co. Ltd.	Badani Mejhian, (f.), 23, Coal-carrier.	Coal	Whilst proceeding along an underground tramline on the way to her working place deceased was knocked down by a moving tub. She sustained a fractured skull and died twenty seven hours later. Inspection and inquiry made.
186	22nd January, 6 A.M.	Kustore Mine, Kusunda P. O., Bihar and Orissa.	Raneegunga Coal Association, Ltd.	Darogi Boy, (m.), 38, Trolleyman.	Coal	Whilst deceased was pushing a loaded mine car down a gradient of 1 in 100 a second loaded car gravitated after him, and his leg was crushed between the buffers of the two cars. He died 5 days later. If the brake had been applied to the rear car the accident would not have occurred. Inspection and inquiry made.
187	1st February, 8 A.M.	Chowrasie Mine, Dishergarh P. O., Bihar and Orissa.	Equitable Coal Co., Ltd.	Radhapada Singh, (m.), 25, Hookman.	Coal	Deceased was riding on a set of tubs without permission, when, owing to the breakage of a coupling, he was jerked off and run over, receiving injuries which proved fatal. Inspection and inquiry made.
188	1st February, 12 mid-day.	Bilbera Mine, Katrasgarh P. O., Bihar and Orissa.	Bilbera Coal Con- cern.	Parmashwar Lall Bishior, (m.), 28, Manager.	Coal	Whilst a train of six empty tubs was being lowered down an incline the first three tubs became derailed. Deceased was crushed between the tubs and the side of the road, and sustained injuries to which he succumbed two hours later. Deceased was the manager of the mine. He should have got into a manhole whilst the train was being lowered. Inspection and inquiry made.

APPENDIX II—*contd.*

List of Fatal Accidents, 1927—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
<b>HAULAGE—(24 deaths)—<i>contd.</i></b>						
139	7th February, 1-0 P.M.	Jamadoba mine, Jealgora P. O., Bihar and Orissa.	Tata Iron & Steel Co., Ld.	Hurus Jatwa, (m.), 25, Hookman.	Coal	Two empty 2½-ton mine cars were uncoupled from a haulage rope and left standing with brakes on, on a slope of 1 in 18. Two more empty cars, which were being lowered down the road, bumped into the stationary cars and caused them to run wild. Deceased was struck by the runaway cars and fatally injured. The empty cars should have been lowered into the siding provided for the purpose and not left on the haulage slope. Inspection and inquiry made.
140	9th February, 10-30 A.M.	Jitpur mine, Jealgora P. O., Bihar and Orissa.	Bongal Iron Co., Ld.	Umesh Chandra Sen Gupta, (m.), 37, Surveyor.	Coal	Whilst a set of 7 loaded tubs was being hauled up a road with a gradient of 1 in 7, the two sections of the draw-bar of the second tub became disconnected, due to the cotter pin securing the connecting pin of the draw bar slipping out. The six loaded tubs ran back over the drag—a distance of 30 feet, and deceased, whilst attempting to get clear, was struck by them. He succumbed to his injuries two hours later. Had deceased remained behind the "stop-prop," where he was standing when the set broke loose, he would have been safe. Inspection and inquiry made.
141	9th March, 11-30 A.M.	Loyabad mine, Bansiara P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Tural Passi, (m.), 35, Hookman.	Coal	A train of loaded tubs was being raised up a steep haulage road, and deceased was riding in front of it with his foot on the haulage rope. As the train rounded a curve the release of the rope from a roller caused a jerk which threw deceased against the front tub of the train. He sustained spinal injuries to which he succumbed six days later. Had deceased not disobeyed the standing orders prohibiting riding on tubs the accident would not have occurred. Inspection and inquiry made.

143	14th March, 2 P.M.	Gandhala mine, Dandot P. O., Punjab.	Pandit Gian Chand	Faqir, s/o Nawab, (m.), 18, Mule Driver.	Coal	A driver slipped and fell in front of a mule drawing two loaded trams on an underground road with a slight down gradient. He was run over and sustained injuries to which he succumbed shortly afterwards. Inspection and inquiry made.
143	5th April, 1 A.M.	Malkera mine, Katrasgarh P. O., Bihar and Orissa.	Tata Iron & Steel Co., Ltd.	Babulal Dosad, (m.), 47, Door-man.	Coal	It was the duty of deceased to open and shut a ventilation door on a haulage slope. On this occasion he failed to open the door, and a descending train forced it open. He was struck by the door and fatally injured. Inspection and inquiry made.
144	5th May, 6-30 A.M.	Gopalichuck (Head) mine, Jharra P. O., Bihar and Orissa.	Gopalichuck Coal Co., Ltd.	Burra Kabar, (m.), 15, Labourer.	Coal	Whilst walking on a tram line underground deceased was struck by a tub which was being pushed by another miner. He was seriously injured and pneumonia supervening, died six days later. Inspection and inquiry made.
145	7th May, 4-30 A.M.	Jamadoba mine, Jalgora P. O., Bihar and Orissa.	Tata Iron and Steel Co., Ltd.	Sonesai Chamar, (m.), 35 Coal-cutter.	Coal	Whilst a miner was assisting to push a 8-ton wagon along a level underground he was run into from behind by another wagon which had not been properly braked. He was crushed between the two wagons and fatally injured. Had the wagon been properly braked or had deceased been pushing at the side instead of behind and between the rails the accident would not have occurred. Inspection and inquiry made.
146	2nd June, 1 A.M.	Ekra Khas mine, Bansjora P. O., Bihar and Orissa.	Maharaja of Kasim- bazar.	Nunku Kabar, (m.), 35, Hookman.	Coal	Deceased was riding on a train of tubs which was being drawn out of an incline, when he fell and was run over by the leading tub. He sustained injuries which proved fatal. Riding on tubs is prohibited. Inspection and inquiry made.
147	23rd June, 8 P.M.	Bhalgora mine, Jharra P. O., Bihar and Orissa.	Bhalgora Coal Co., Ltd.	Sahangu Koiri, (m.), 33, Signal-man.	Coal	Whilst a train of 8 loaded tubs was being hauled round a curve from a level landing on to a haulage slope the rope broke, and the train ran backwards for a distance of 15 feet where it was derailed, and two tubs were overturned. Deceased who was standing in the landing near the signal lever was struck by flying pieces of coal and fatally injured. Inspection and inquiry made.
148	30th June, 10-30 A.M.	Kendwahli mine, Kusunda P. O., Bihar and Orissa.	East Indian Coal Co., Ltd.	Bausi Rai, (m.), 30, Coal-cutter.	Coal	Owing to the pin of a shackle falling out and the overriding of the drag, eight tubs of a train of nine loaded tubs ran wild for a distance of 400 feet on a dip haulage road. A miner was run over and killed instantly. The fatality would not have occurred if the man had used the separate travelling road provided. Inspection and inquiry made.

APPENDIX II—contd.

List of Fatal Accidents, 1927—contd.

Serial number.	Date and hour of accident.	Name and situation of mine	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
HAULAGE—(24 deaths)—contd.						
149	7th September, 11-50 A. M.	Huntodih mine, Mohuda P. O., Bihar and Orissa.	Huntodih Coal Co., Ld.	Jagoo Barhi, (m.), 35, Labourer.	Coal	Whilst a train of ten empty tubs was being lowered down an incline, a coupling came off and eight of the tubs ran wild. Deceased, who was working in the incline between the second and third levels, was struck and killed instantly. Inspection and inquiry made.
150	20th September 12-30 P. M.	North Damuda, Nudkburkee P. O., Bihar and Orissa.	North Damuda Coal Co., Ld.	Ram Ranjan Gha- tak, (m.), 36, Tub checking clerk.	Coal	A train of eight loaded tubs was being raised up a haulage incline when the coupling of the second tub failed and seven tubs ran wild. A tub-checking clerk who was standing on the haulage road was crushed between a tub and the side of the road. He was seriously injured and died almost immediately. Had the coupling been in serviceable condition the accident would not have occurred. Inspection and inquiry made.
151	1st November, 1-30 P.M.	Jamadoba mine, Jaulgora P. O., Bihar and Orissa.	Tata Iron & Steel Co., Ld.	Shaik Ishak Momin, (m.), 23, Labourer.	Coal	As a locomotive coolie was stepping off a slowly moving mine car after applying the brakes, he fell and the front wheels ran over the fleshy part of his right thigh. His injuries were not serious but he died six days afterwards from septicaemia. Inspection and inquiry made.
152	24th November, 8 P.M.	Kustore mine, Kusunda P. O., Bihar and Orissa.	Rancegunge Coal Association, Ld.	Abdul Halim, (m.), 40, Trolleyman.	Coal	Whilst a trolleyman was applying the brakes on a train of slowly moving mine cars, he slipped and fell. A car passed over the fleshy part of his right leg and caused injuries from which he died three days later. Inspection and inquiry made.
153	1st December, 11-55 P.M.	Ballihari mine, Kusunda P. O., Bihar and Orissa.	Ballihari Coal Co.	Shamial Dasadh, (m.), 45, Signalman.	Coal	A signalman left his lamp at the signal station and, with the object of expediting the traffic, was walking up an underground haulage road without a light when he was knocked down and killed by a loaded tub which was being lowered on the haulage rope. The accident would not have occurred if he had carried a light. Inspection and inquiry made.

154	23rd December, 8 A.M.	Nyades mine, Kusunda P. O., Bihar and Orissa.	Kosoonda and Nyades Collieries, Ld.	Daru Meah, (m.), 32, Trolleyman.	Coal	A loaded tub became detached from a haulage rope whilst it was being lowered down a road dipping at 1 in 12, and after running wild for 225 feet, it overturned and struck a trolleyman who was sleeping at the side of the road. He was fatally injured and died two and half hours later. Inspection and inquiry made.
155	25th December, 3 A.M.	Dishergarh mine, Dishergarh P. O., Bengal.	Equitable Coal Co., Ld.	Jada Bauri, (m.), 30, Tramer.	Coal	Although warned to stand clear of the rails deceased failed to do so and was run into by a train of loaded tubs which was being lowered on an underground self-acting incline. He was fatally injured. Inspection and inquiry made.
156	26th December, 8 P.M.	Dongar Chickli mine, Peach P. O., Central Provinces.	Amalgamated Coal- fields, Ld.	Ramjan Mussal- man, (m.), 14, Labourer.	Coal	Owing to a miscoupling the two loading tubs of a train of four tubs ran wild from the top of an underground haulage slope. Deceased who was crossing the road at a point some 500 feet below the top of the slope, was run over and killed. A runaway point was provided, but the bankaman lost his head and kept the point closed. Inspection and inquiry made.
157	30th December, 5 P.M.	Bokaro mine, Bokaro P. O., Bihar and Orissa.	East Indian and Bengal Nagpur Railways.	Laloo Singh, (m.), 27, Trolleyman.	Coal	A haulage hand on a surface tramway after placing sprags in the wheels of a train of eight wagons moving under the force of gravity, jumped on behind the last wagon. A derailment brought the train to a sudden stop, and the man was thrown against the end of the wagon with such violence that he sustained internal injuries which caused death on the next day. Bidding on the tubs was a breach of standing orders. Inspection and inquiry made.
<b>BY UNDERGROUND MACHINERY- (3 deaths).</b>						
158	10th March, 11-30 P.M.	Sutikdih mine, Pathardih P.O., Bihar and Orissa.	Sutikdih Coal Co., Ld.	Shaikh Talwa, (m.), 23, Machineman.	Coal	Whilst a bar coal-cutter was cutting across a gallery the bar holed through into a part which had previously been undercut and the machine swung round. Deceased, who was standing near the side of the machine, was caught by the revolving bar and his legs were severed. He died eight hours later. Greater care on the part of the machine driver would have prevented the accident. Inspection and inquiry made.
159	1st August, 5-30 P.M.	Jamadoba mine, Jaugora F.O., Bihar and Orissa.	Tata Iron and Steel Co., Ld.	Hakim Meah, (m.), 30, Pump-man.	Coal	A pump attendant was on duty at an electric pump when in some manner which could not be definitely ascertained his foot was caught in the gearing of the pump. Tetanus supervened and he died ten days later. Inspection and inquiry made.



APPENDIX II—contd.

List of Fatal Accidents, 1927—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
<b>BY UNDERGROUND MACHINERY—(8 deaths)—contd.</b>						
160.	15th November. 12-30 P.M.	Methani mine, Sitarampur P.O., Bengal.	Ardih Coal Co., Ld.	Arjatali Meah, (m.), 35, Machineman.	Coal	Whilst a coal-cutting machine was "sumping in" at the side of a gallery the bar swung out knocking down deceased and the stay prop he was holding. He was killed instantly by the revolving picks. Inspection and inquiry made.
<b>SUNDRIES UNDERGROUND—(20 deaths).</b>						
161	26th January, 4 P.M.	Jojohatu mine, Chaibassa P.O., Bihar and Orissa.	Harkarandass Maugilal	Rengoo Hoo, (m.), 37, Labourer.	Chromite	While assisting in rolling a heavy boulder down a slope, deceased fell in front of it and was fatally crushed. Inspection and inquiry made.
162	6th February, 12-5 A.M.	Bawdwin mine, Namtu P.O., Burma.	Burma Corporation, Ld.	Shan Hwa Chi, (m.) 21, Miner.	Silver- lead.	A miner was standing on a heap of ore in a stope attempting to free it and cause it to move through an aperture in the cribbing into the chute. Suddenly the entire mass commenced to move, and he was carried along with it into the chute, down which he fell. He received fatal injuries. Inspection and inquiry made.
163	11th February, 2-30 P. M.	Lodna mine, Jharin P. O., Bihar and Orissa.	Lodna Colliery Co., (1920), Ld.	Neria Rajawarin, (f.) 17, Coal-carrier.	Coal	Whilst deceased was carrying a piece of coal, weighing about 50 lb., the coal touched a prop, causing her to over-balance and fall. The coal fell upon her and she sustained internal injuries from which she died two days later. Inspection and inquiry made.
164	22nd February, 2 A. M.	Chota Dhemo mine, Sitarampur P. O., Bengal.	Bengal Coal Co., Ld.	Thenais Dasadh, (m.), 25, Coal-cutter.	Coal	Whilst deceased was taking down roof coal he levered down the coal on which rested the ladder on which he was standing. He fell to the ground—a distance of 7 feet—and received injuries from which he died four days later. Inspection and inquiry made.
165	20th March, 1-30 A. M.	Babisole mine, Raniganj P. O., Bengal.	Baraboni Coal Con- cern, Ld.	Khandi Mejhian, (f.) 16, Coal-carrier.	Coal	Whilst carrying on her head a lump of coal in an under-ground gallery, deceased lost her balance and fell. The piece of coal struck her forehead, inflicting injuries which terminated fatally three days later. Inspection and inquiry made.

166	24th March, 1-25 P. M.	Bawdwin mine, Namtu P. O., Burma.	Burma Corporation, Ld.	Amer Singh, (m.), 30, Miner.	Silver- Lead.	In an open excavation on the side of a hill four workmen were barring down rock on a ledge 2 feet wide and 30 feet above ground level, when one of them lost his balance and fell down the face of the quarry. He sustained fatal injuries. With the object of avoiding such accidents ledges are now being made wider. Inspection and inquiry made.
167	10th April, 8-30 A. M.	Kargali mine, Bokaro P. O., Bihar and Orissa.	Great Indian Penin- sula Railway.	Chandu Chamar (m.), 25, Coal-cutter.	Coal	A miner was working on a ledge in a quarry when his foot slipped and he fell over backwards from a height of 33 feet. He was killed instantly. Inspection and inquiry made.
168	24th May, 2 P. M.	Kohinoor mine, Bhojudih P. O., Bihar and Orissa.	Ram Gopal Show Ratan Mohta.	Jhali Gowalin, (f.), 35, Labourer.	Coal	Deceased attempted to draw water from an accumulation of water in the face of a gallery in a steeply inclined coal seam. She slipped into the water and was drowned. If a proper fence had been erected, the accident would, in all probability, have been avoided. Inspection and inquiry made.
169	18th June, 12 noon.	Taungpila mine, Tavoy P. O., Burma.	Quah Cheng Guan	Hasterbahadur Groom. (m.), 28, Miner.	Tin & wolfram.	During a severe storm, a tree in the vicinity of a sluicing cutting was blown over, and killed one of a gang of men working in the cutting. Inspection and inquiry made.
170	24th June, 9 A. M.	Hsaikhao mine, Namtu P. O., Burma.	Burma Corporation Ld.	Leo Lee, (m.), 30, Miner.	Limes- stone.	A miner was drilling a shot-hole on a ledge in a quarry, when he fell from a height of 6 feet, receiving fatal injuries. Inspection and inquiry made.
171	30th June, 12-36 P. M.	Charanpur mine, Charanpur P. O., Bengal.	Apcar Collieries, Ld.	Chaturi Pashi, (m.), 40, Coal-cutter.	Coal	A miner was holding a light whilst another miner was levering down some coal from the side of a pillar. A mass of coal, weighing about one ton, suddenly fell away from a height of 6 feet, and knocked out a prop which displaced another prop. The miner was struck by the second prop and killed on the spot. Inspection and inquiry made.
172	18th July, 6-45 P. M.	Bansdeopur mine, Kununda P. O., Bihar and Orissa.	Bansdeopur Coal Co., Ld.	Randho Mojhan, (f.), 25, Coal-carrier.	Coal	Deceased was walking up a haulage road behind a train of tubs when the rear tub of the train became detached and commenced to run back. In attempting to reach a place of safety she stumbled and struck her head against the side of the road receiving fatal injuries. Inspection and inquiry made.
173	17th July, 8-30 A. M.	Taungzun mine, Thaton P. O., Burma.	Osman Mustikhan.	Po Tha, (m.), 37; Tun Sein, (m.), 22, Quarrymen.	Stone	Two quarrymen were drilling a shot-hole on a face of rock 30 feet above the floor of a quarry when one of them slipped and fell. In attempting to save him, the other man also fell. Both received fatal injuries. Had they made use of the rope provided, the accident would not have occurred. Inspection and inquiry made.

APPENDIX II—*contd.*

List of Fatal Accidents, 1927—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
<b>SUNDRIES UNDERGROUND—(20 deaths)—<i>conoid.</i></b>						
174	12th August, 6-30 A.M.	Yinnyeiu mine, Yinnyeiu P. O., Burma.	Ibrahim	Anaman, (m.), 30, Quarryman.	Stone	Two miners were barring down stone from the face of a quarry when they overbalanced and fell from a height of 40 feet. One of them received serious and the other fatal injuries. Had they used the safety rope provided the accident would not have occurred. Inspection and inquiry made.
175	14th August, 2 A.M.	Darundapur mine, Nandi P. O., Bengal.	Bengal Coal Co., Ld.	Noroo Bauri, (m.), 25, Trammer.	Coal	Deceased and a companion had lifted one end of a pipe, 57 diameter × 17' long, when he slipped and fell with the pipe. He sustained a fractured skull and died some weeks later. Inspection and inquiry made.
176	4th September, 2-30 A.M.	Kajora mine, Ondal P. O., Bengal.	Maharaja of Kasimbazar.	Baroni Banrini, (f.), 30, Coal-carrier.	Coal	Whilst deceased was carrying a large lump of coal on her head, she slipped and fell down. In falling, the coal struck her on the head, causing injuries from which she died within a few hours. Inspection and inquiry made.
177	19th October, 10 A.M.	Khas Jhorria mine, Jharra P. O., Bihar and Orissa.	Khas Jhorria Colliery Co., Ld.	Jethoo Mahato, (m.), 40, Labourer.	Coal	A workman entered a gallery in which floor coal had been cut to a depth of 14 feet. As he did not take a light he fell over the edge of the floor coal and sustained fatal injuries. Inspection and inquiry made.
178	19th November, 12 noon.	Khas Jhorria mine, Jharra P. O., Bihar and Orissa.	Khas Jhorria Colliery Co., Ld.	Sankhatha Passi, (m.), 37, Coal-cutter.	Coal	A miner was taking down overhanging coal and stone from the side of a pillar, 30 feet in height, when the ledge on which he was standing broke away, and he fell to the floor—a distance of 21 feet. He was fatally injured. He should have dressed the overhanging coal from a ladder in accordance with instructions. Inspection and inquiry made.
179	21st December, 2-30 A.M.	Sadamdihi mine, Pathardih P. O., Bihar and Orissa.	G. A. Achard & Co., Ld.	Rakhai Moral, (m.), 38, Trolleyman.	Coal	Deceased was assisting in the re-railing of a loaded tub on a haulage road with a gradient of 1 in 1½, when a piece of coal rolled down the road and struck him on the head. He sustained injuries to which he succumbed twelve hours later. Inspection and inquiry made.

**BY SURFACE MACHINERY—(6 deaths).**

180	25th July, 1 A.M.	Bejdih mine, Sunderchack P. O., Bengal.	Equitable Coal Co., Ld.	R. Magan, (m.), 46, <i>Door attendant.</i>	Coal	Deceased was found dead inside the drum of a winding engine. It was presumed that he had gone inside the drum to sleep. When the engine was started he was whirled against the interior of the drum and killed. Inspection and inquiry made.
181	18th August, 9-45 A.M.	Argada mine, Bamgarh P. O., Bihar and Orissa.	Bengal Nagpur Railway Co.	Gopla Kumar, (m.), 16, <i>Labourer.</i>	Coal	Deceased, instead of using the ladder-way to go down to the ground level from the picking belt platform, attempted to descend by climbing over a girder frame-work. His clothing was caught by a set screw on a slowly revolving shaft and he was crushed against a wall. He sustained a fractured skull and died one hour later. Inspection and inquiry made.
182	24th August, 9-30 P.M.	Phularitand mine, Katrasgarh, P. O., Bihar and Orissa.	Baraboni Coal Concern, Ld.	Doli Mahato, (m.), 35, <i>Trammer.</i>	Coal	On a stormy night a trammer went through the fencing of a haulage engine and took shelter inside the drum. When the engine was set in motion he was fatally injured. Inspection and inquiry made.
183	29th October, 11-50 P.M.	Bawdwin mine, Namtu P. O., Burma.	Burma Corporation, Ld.	Nandu Lal, (m.), 32, <i>Labourer.</i>	Silver- lead.	Deceased went through a fence into a motor-house and attempted to pass between a moving belt and the wall of the house. His clothes became entangled between the belt and the driving pulley, and he was thrown against the wall. He sustained fatal injuries. Inspection and inquiry made.
184	20th December, 11-30 P.M.	Sodepur mine, Sitarampur P. O., Bengal.	Bengal Coal Co., Ld.	Rojan Mesh, (m.), 35, <i>Labourer.</i>	Coal	Deceased went inside the fencing with the object of cleaning or oiling a small compressor. A loose scarf which he was wearing was caught by the coupling of the motor and wound round the shaft. He was thrown against a pipe and killed instantly. He should have switched off the current before attending to the engine. Inspection and inquiry made.

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**ON SURFACE RAILWAYS AND TRAMWAYS BELONGING TO THE MINE—(16 deaths).**

185	23rd January, 4 P.M.	Tutuguta mine, Chaibasa P. O., Bihar and Orissa.	Mangilal Marwari	Loka Tanti, (m.), 18, <i>Labourer.</i>	Manga- nose.	In attempting to jump on to a tub which other persons were pushing by hand deceased fell and was run over, sustaining injuries so severe that he died a week later. Inspection and inquiry made.
186	25th January, 7 P.M.	West Jamuria mine, Nandi P. O., Bengal.	West Jamuria Coal Co., Ld.	Lakhi Kole, (f.), 30, <i>Labourer.</i>	Coal	Whilst deceased was crossing the railway in a colliery siding she was knocked down by a loaded wagon and killed instantly. Inspection and inquiry made.

APPENDIX II—contd.

List of Fatal Accidents, 1927—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
<b>ON SURFACE RAILWAYS AND TRAMWAYS BELONGING TO THE MINE—(16 deaths)—contd.</b>						
187	12th February, 11 A.M.	Tirody mine, Tirody P. O., Central Provinces.	Tirody Manganese Ore Co., Ltd.	Chaitram Kathia, (m.), 35, Trammer.	M a n g a - n e s e.	Deceased rode on the rear end of a moving tub which was followed by another tub moving a little faster. On seeing the latter coming close he tried to jump aside and in doing so slipped. His leg was crushed between the tubs and seriously injured. He died of blood poisoning four days later. Riding on tubs was contrary to standing orders. Inspection and inquiry made.
188	13th April, 8-30 A.M.	Kymore mine, Kymore P. O., Central Provinces.	Central Provinces Portland Cement Co., Ltd.	Bhagwandas Bindu, (m.), 20, Pointsmen.	L i m e - s t o n e s.	Deceased, whilst attempting to board a moving wagon, slipped and fell on the line. He was run over and received injuries to which he succumbed two days later. Inspection and inquiry made.
189	30th April, 2-10 P.M.	Sunkerpore mine, Ukbra P. O., Bengal.	Burn & Co., Ltd.	Raju Baurin, (f.), 38, Trammer.	Coal	Whilst deceased was pushing a loaded tub against a slight gradient on a surface tramway, the tub following behind overtook her and knocked her down. She sustained serious injuries and died two days later. Inspection and inquiry made.
190	31st May, 1 A.M.	Dhori mine, Bokaro P. O., Bihar and Orissa.	Bokaro & Ramgur Ltd.	Ful Singh, (m.), 50, Trammer.	Coal	At the top of a haulage slope a train of loaded tubs was allowed to gravitate along a siding where it bumped into other tubs standing in the siding. A trammer engaged in shunting operations was crushed between the tubs and fatally injured. Inspection and inquiry made.
191	16th July, 12-30 P.M.	Tirodi mine, Tirodi P. O., Central Provinces.	Tirodi Manganese Ore Co., Ltd.	Feran Bhuiya, (m.), 45, Trammer.	M a n g a - n e s e.	Two trammers were pushing a loaded tub of the tipping pattern when in rounding a curve the tub derailed and side-tipped. The head of one of them was crushed between the body of the tub and its frame, and he was fatally injured. Presumably they had omitted to fix the catches provided for the purpose of preventing premature tipping. Inspection and inquiry made.

192	3rd September, 5-30 P.M.	Bhangia Gurotote mine, Rohtas P. O., Bihar and Orissa.	Sono Valley Port- land Cement Co., Ld.	Jherua Newain, (f.), 35, <i>Labourer.</i>	L i m e stone.	Whilst walking along a surface tramline deceased was run over by a loaded wagon which was being pushed (by hand). Her injuries subsequently proved fatal.
193	10th September, 11-45 A.M.	Sitalpur mine, Dishergarh P. O., Bengal.	Bengal Coal Co., Ld.	Bira Turi, (m.), 15, <i>Coal-cutter.</i>	Coal	Whilst wagons were being handshunted on a railway siding, deceased attempted to pass between two wagons. He was crushed between the buffers and fatally injured. Inspection and inquiry made.
194	9th October, 6-30 P.M.	Noamundi mine, Mahudi P. O., Bihar and Orissa.	Tata Iron & Steel Co., Ld.,	Sadhu Kole, (m.), 27, <i>Shunter.</i>	Iron ore.	Whilst deceased, assisted by other shunters, was placing a loaded wagon on a weigh-bridge his arm was crushed between a stationary wagon and the buffer of the moving wagon. He died twenty hours later. Inspection and inquiry made.
195	17th October, 10-30 A.M.	Katras mine, Katrasgarh P. O., Bihar and Orissa.	Barrakar Coal Co., Ld.	Somri Chamarin, (f.), 14, <i>Labourer.</i>	Coal	In a railway siding an empty wagon was pushed violently against two stationary wagons with a view to pushing forward the latter. The wagon recoiled and deceased was run over and killed instantly. Inspection and inquiry made.
196	1st November, 2 A.M.	Heinds mine, Tavoy P. O., Burma.	Anglo-Burma Tin Co., Ld.	Abdul Aziz, (m.), 32, Noor Jamma, (m.), 35, <i>Winchmen.</i>	Tin	A trolley on which five persons were riding ran amain down a surface haulage incline and overturned at the bottom. The occupants were hurled to the ground, two receiving fatal and the other three serious injuries. Riding on the trolley was not permitted. Inspection and inquiry made.
197	17th November, 8 P.M.	Sripur mine, Kalipahari P. O., Beugal.	Lodna Celliory Co., (1920), Ld.	Jagan Bhuiya, (m.), 45, <i>Trolleyman.</i>	Coal	A trolleyman was pushing a loaded tub towards the foot of a mechanical creeper, when another loaded tub which was ascending the creeper ran backwards and collided with it. The tub was derailed and the trolleyman was fatally crushed between it and an upright stanchion. As the impact of the tub broke the safety appliance provided the grade of the track was afterwards reduced. Inspection and inquiry made.
198	23rd November	Gopalpur mine, Birbhum, Beugal.	Rajgaon Stone Co., Ld.	Budh Rai Majhi, (m.), <i>Trammer.</i>	Stone	Whilst pushing tubs on a surface tramway deceased was crushed between two tubs and fatally injured. Inspection and inquiry made.
199	27th December, 5 A.M.	Jannardeo mine, Jamai P. O., Central Provinces.	R. S. H. Verma and Munshi Kanhai- yalal, Ld.	Dayalal Kathia, (m.), 20, <i>Trammer.</i>	Coal	On a surface tram line on which the tubs are propelled by hand one tub overtook another and collided with it. The collision caused some of the coal in the following tub to be thrown off, and a lump of coal struck one of the trammers in the abdomen. He sustained internal injuries and died on the following day. Inspection and inquiry made.

**APPENDIX II—contd.**  
**List of Fatal Accidents, 1927—contd.**

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
<b>BY ELECTRICITY—(2 deaths).</b>						
200	26th April, 6-30 P.M.	Bojdih mine, Sunderchak P. O., Bengal.	Equitable Coal Co., Ld.	Chotto Suka Majhee (m.), 21, Haulage Khatari.	Coal	Deceased was operating an electric haulage when due to sparking at switch contacts, an explosion of oil vapour in the switch occurred. He was fatally injured by pieces of glass blown out from the switch. The design of the switch was considered to be defective in certain respects. Inspection and inquiry made.
201	9th May, 11-30 P.M.	Jamadaha mine, Jalgora P. O., Bihar and Orissa.	Tata Iron & Steel Co., Ld.	Prem Roy, (m.), 26, Coal-cutter.	Coal	Deceased was electrocuted by accidentally coming in contact with an underground trolley-wire, under installation, which by the mistake of a coal cutting machineman, had been made "alive". The pressure was 250 volts d. c. Inspection and inquiry made.
<b>MISCELLANEOUS ON SURFACE—(3 deaths).</b>						
203	24th February, 5 A.M.	Kurharbaroo mine, Girdih P. O., Bihar and Orissa.	East Indian Rail- way.	Budhan Passi, (m.), 54, Labourer.	Coal	A labourer sleeping on the top of a heap of lime in a lime-store rolled off the heap and fell on a fire which he had lighted some hours previously. He sustained fatal burning injuries. Inspection and inquiry made.
203	17th March, 3 P.M.	South Bullari mine, Kusunda P. O., Bihar and Orissa.	East Indian Coal Co., Ld.	Garudayal Dosadh, (m.), 50, Labourer.	Coal	Whilst deceased was helping to demolish a line of coolie dwellings a portion of the roof collapsed, and he was buried. He died from injuries two hours later. If he had obeyed instructions and dismantled the roof first, he would not have been killed. Inspection and inquiry made.
204	19th April, 6 P.M.	Sripore mine, Kalipahari P. O., Bengal.	Lodna Colliery Co. (1920), Ld.	Sujad Ali, (m.), 35, Mason.	Coal	During the construction of a chimney, 130' x 5'—8' diameter, two masons were being lowered slowly in a bucket inside the chimney. When about 30 feet from the bottom of the chimney the bucket fouled a scaffolding pole and tilted, causing the men to fall out. Deceased succumbed to his injuries three hours later, and the other man sustained a fracture of the thigh. Had only one person been riding in the bucket, in accordance with orders, the accident would most probably have been avoided. Inspection and inquiry made.

205	7th June, 11-15 A.M.	Gua mine, Mahadi P. O., Bihar and Orissa.	Indian Iron & Steel Co., Ltd.	Satraghan, (m.), 30, Labourer.	Iron Ore	An attendant was standing on a wooden platform at the bottom of a self-acting skip-haulage incline when the skip became derailed and struck the platform with violence. He fell to the ground, 21 feet below, and sustained injuries which later proved fatal. Inspection and inquiry made.
206	15th June, 10 A.M.	Bagdigi mine, Jharis P. O., Bihar and Orissa.	Villiers Ltd.	Uman Dasadh, (m.), 18, Labourer.	Coal	Whilst deceased was jumping off a motor lorry which was used to transport coal from one part of the colliery to another, he stumbled and fell. One of the rear wheels of the lorry passed over his leg, causing fatal injuries. Inspection and inquiry made.
207	13th July, 11-30 A.M.	Sitalpur mine, Dishergarh P. O., Bengal.	Bengal Coal Co., Ltd.	Gonesh Mahato, (m.), 35, Tramper.	Coal	A tramper on the screening plant at the top of a shaft was adjusting the position of a loaded tub on a tippler when another tub ran into him from behind. He was crushed between the two tubs and sustained injuries which led to his death nine days later. If deceased had used the sprags provided the accident would not have occurred. Inspection and inquiry made.
208	29th November, 5-30 A.M.	Chowrasia mine, Dishergarh P. O., Bihar and Orissa.	Equitable Coal Co., Ltd.	Bhima Bauri, (m.), 25, Banksman.	Coal	The packing of a steam joint blew out, and the escaping steam scalded a banksman who was lying asleep nearby. Inspection and inquiry made.
209	27th December, 4-15 P.M.	Heinda mine, Tavoy P. O., Burma.	Anglo-Burma Tin Co., Ltd.	Ah Hee, (m.), 48, Carpenter.	Tin	A structure, 250' x 36' x 25' high, consisting of wooden trestles and designed to carry a set of five sluice boxes was being erected when, owing to an insufficiency of longitudinal bracing, it collapsed. Eight carpenters at work on the structure were flung to the ground, 20 feet below, one of them being killed and four seriously injured. Inspection and inquiry made.



APPENDIX II—contd.

List of Fatal Accidents, 1927—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Reason for exclusion.	Cause of accident and remarks.
<b>FIGURES NOT INCLUDED IN THE STATISTICS—(35 deaths).</b>							
1	7th January,	Minck mine, Sharigh P. O., Baluchistan.	Minck Colliery Co.	Bahin, (m.), 18.	Coal	Not employed.	Deceased was withdrawing timber in an abandoned adit when he was buried by a fall of roof. It was presumed that he was intending to steal the timber for domestic purposes. Inspection and inquiry made.
2	24th January, 4 A.M.	Kustore mine, Kusunda P. O., Bihar and Orissa.	Raneegunge Coal Association, Ld.	Baldeo Dhanuk, (m.), 15, Coal-carrier.	Coal	Not a mining accident.	Whilst deceased was sleeping in his quarters near a fire his clothing caught fire and he was fatally burned. Inspection and inquiry made.
3	26th February, 4-30 A.M.	Gopalchuck Head mine, Jharis P. O., Bihar and Orissa.	Gopalchuck Coal Co., Ld.	Nathuni Dossan, (m.), 25, Trolleyman.	Coal	Not a mining accident.	Whilst deceased was warming himself at an open fire on the surface his clothing became ignited. He sustained severe burns on the body and died of shock nine hours later. Inspection and inquiry made.
4	4th March, 1 P.M.	Sania mine, Pandaveswar P. O., Bengal.	Sania Kendra Collieries Ld.	Dino Kole, (m.), 50, Coal-cutter.	Coal	Not a mining accident.	Whilst at work underground deceased collapsed and died from natural causes. Inspection and inquiry made.
5	17th March, between 12 noon and 5 P.M.	Chota Dhemo mine, Sitarampur P. O., Bengal.	Bengal Coal Co., Ld.	Damor Bhuiya, (m.), 35; Bandhia Bhuiyan, (f.), 30, Labourers.	...	Not a mining accident.	Whilst bathing in a quarry which was full of water and regularly used as a bathing tank the deceased were drowned. The bottom of the quarry had a gradual slope towards the centre. Inspection and inquiry made.
6	18th March	Pure Angarpathra mine, Katragarh P. O., Bihar and Orissa.	Pure Angarpathra Colliery Co.	Unknown, (m.), 60. Not employed.	Coal	Not employed.	Deceased was found drowned in an inoline cutting, 7 feet deep. The inoline was suitably fenced. Inspection and inquiry made.

7	19th March, 11-30 A.M.	Tonosu mine, Toposi P. O., Bengal.	Bansra Coal Co., Ld.	Kunjia Hauri, (m.), 87, Trolleyman.	Coal	Not a mining accident.	Deceased was removing straw, saturated with kerosene, from a covered railway wagon when the straw became ignited. He was severely burned and died within a few hours. Inspection and inquiry made.
8	22nd March, 5 P.M.	Bhulanbararee mine Pathardih P. O. Bihar and Orissa.	Bhulanbararee Coal Co., Ld.	Charkoo Raj- war, (m.), 45, Earth- cutter.	Coal	Not a mining accident.	Deceased was one of a number of persons employed in removing a spoil-heap. After lifting a basket of debris on to the head of a follow-worker he sat down and died from heart failure. Inspection and inquiry made.
9	22nd April, 2 P.M.	Lalpath mine, Chanda P. O., Central Pro- vinces.	Diwan Bahadur Ballavdas & Sons.	Agati, (f.), 5.	Coal	Not em- ployed.	Deceased ran down an embankment, 8 feet high, into a heap of hot ashes, and was so severely burnt that she died seven hours later. Inspection and inquiry made.
10	25th May, 7 A.M.	Mosaboni mine, Mosaboni P. O., Bihar and Orissa.	Indian Copper Cor- poration, Ld.	Kutti Krishna Nair, (m.), 25, Machine- driller.	Copper	Not a mining accident.	Deceased had descended a well by means of a rope in order to recover a bucket. As he neared the top, he missed his hold and fell. He received injuries in falling, and was dead when his body was recovered. Inspection and inquiry made.
11	1st June	Gopalpur mine, Pakur P. O., Bengal.	Rajgaon Stone Co., Ld.	Maubodh, (m.),	Stone	Not em- ployed.	A trolley cooly employed by the East-Indian Railway was knocked down and ran over on a surface tramway. He sustained internal injuries and died shortly after. Inspection and inquiry made.
12	11th June, 7-30 A.M.	Tirody mine, Tirody P.O., Central Provin- ces.	Tirody Manganese Ore Co., Ld.	Hagu, (f.), 18.	Manga- nese	Not em- ployed.	An unemployed girl brought food to her brother who was at work in a quarry. She attempted to get up on a block of stone, 4' 6" x 3' x 2' 6", weighing about two tons; the stone rolled over and she fell with it, striking her fore-head against its sharp edge. She sustained injuries from which she died within an hour. Inspection and inquiry made.
13	18th July, 9 A.M.	Gonshadib mine, Kusnada P. O., Bihar and Orissa	Gonshadib Coal Co.	Gangia (f.), 5.	Coal	Not em- ployed.	An empty wagon was being pushed along a railway siding when a small child attempted to cross the line and was run over and fatally injured. Inspection and inquiry made.
14	18th July, 11 A.M.	Shivrajpur mine, Shivrajpur P. O., Bombay.	Shivrajpur Syнди- cate, Ld.	Kalyani Bapa, (f.), 20, Labourer.	Manga- nese.	Not a mining acci- dent.	Whilst bathing in an accumulation of water in open work-ings deceased was drowned.
15	24th August, 3-30 A.M.	Lodna mine, Jharis P.O., Bihar and Orissa.	Lodna Colliery Co., (1920), Ld.	Ohaita Ruhidas, (m.), 29, Coal-cutter.	Coal	Not a mining acci- dent.	Deceased was in domestic trouble. Whilst being lowered down a shaft

APPENDIX II.—*contd.*

List of Fatal Accidents during the year 1927.—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Reason for exclusion.	Cause of accident and remarks.
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FIGURES NOT INCLUDED IN THE STATISTICS—(35 deaths)—*contd.*

16	5th September, 9-15 A.M.	Khas Jharis mine, Jharis P. O., Bihar and Orissa.	Khora Ramji	Bajinath Dasadh, (m.), 22, Trimmer.	Coal	Not a mining accident.	After an altercation with his parents, deceased jumped down a shaft, 306 feet deep, and was killed instantly. Inspection and inquiry made.
17	12-1 3th September, 12 Mid-night.	Hurtiladih mine, Jealgora P. O., Bihar and Orissa.	Equitable Coal Co., Ltd.	Sofia, (f.), 50, Labourer.	Coal	Not a mining accident.	The body of deceased was found in a well. Inspection and inquiry made.
18	14th September, 12 Noon.	Jamadoba mine, Jealgora P. O., Bihar and Orissa.	Tata Iron and Steel Co., Ltd.	Charan Mahat, (m.), 24, Workshop Assistant.	Coal	Not a mining accident.	Deceased jumped into a tank and being unable to swim, was drowned. Inspection and inquiry made.
19	15th September, 6-30 P. M.	Manegaon mine, Ramtek P. O., Central Provinces.	Shamji Naranji	Muki, (f.), 31, Labourer.	Manganese.	Not a mining accident.	A woman who was known to be an epileptic was found drowned in a shallow excavation. Inspection and inquiry made.
20	1st November, about 12 Mid-night.	Deeps-Durga mine, Sydapuram P. O. Madras.	K. Padma Naidu Garu.	One man and six children.	Mica	Not a mining accident.	The deceased were killed by the fall of buildings in which they were sheltering during a cyclone.

21	1st November, 12 P.M.	Lakshmi Prasanna mine, Sydapuram P. O., Madras.	R. Ramalingam Chetty.	Achi-Ankadu, (m), 5.	Mica	Not a mining accident.	Deceased was killed by the fall of a building during a cyclone.
22	1st November.	Radha Krishna mine, Sydapuram P. O., Madras.	P. Rangapa Naidu	Five persons	Mica	Not a mining accident.	The deceased were killed by the fall of a building during a cyclone.
23	3rd November, 6-30 A.M.	Hurriladih mine, Jharia P. O., Bihar and Orissa.	Equitable Coal Co., Ld.	Uday Mendal, (m), 55, Labourer.	Coal	An accident under the Indian Rail- ways Act.	As a train of loaded wagons was being hauled out of a colliery siding, a line-cleaning-coolie climbed on to the footplate of the engine tender. In attempting to step off on to the loading wharf, he slipped and fell on to the rails and his left leg was severed. He should not have ridden on the train.
24	8th November, 1 P.M.	Jaragdih mine, Bokaro P. O., Bihar and Orissa.	Bombay, Baroda and Central India Railway, and M. and S. M. Rail- way.	Gohra, (m), 3.	Coal	Not em- ployed.	Four tubs derailed and fell over a ledge in a quarry, and a small child who had strayed into the quarry was struck by one of the tubs and killed instantly. Inspection and inquiry made.

Table

## Statement of fatal and serious accidents in and about Mines

Province.	District and Mineral field.	FATAL ACCI										
		Number of separate fatal accidents.	Number of deaths.									Grand Total.
			Underground.			Open workings.			Surface.			
			Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	
Assam	Lakhimpur	9	9	...	9	1	1	2	...	...	...	11
	Total	9	9	...	9	1	1	2	...	...	...	11
Baluchistan	Quetta-Pishin	1	1	...	1	...	...	...	...	...	...	1
	Total	1	1	...	1	...	...	...	...	...	...	1
Bengal	Burdwan	34	19	8	27	...	...	...	7	2	9	36
	Total	34	19	8	27	...	...	...	7	2	9	36

## DIX II.

No. 2.

regulated by the Indian Mines Act, during the year 1927.

DENTS.				SERIOUS ACCIDENTS.															
Death rate per 1,000 persons employed.				Number of separate serious accidents.	Number of persons seriously injured.									Grand Total.	Serious injury rate per 1,000 persons employed.				
Underground.	Open workings.	Surface.	Underground, Open workings and Surface.		Underground.			Open workings.			Surface.				Underground.	Open workings.	Surface.	Underground, Open workings and Surface.	
					Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.						
AL.																			
5.06	2.80	...	3.27	67	47	...	47	...	...	...	19	3	22	69	26.42	...	25.14	20.48	
4.22	2.80	...	2.78	67	47	...	47	...	...	...	19	3	22	69	22.01	...	18.77	17.15	
10.10	...	...	7.52	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
5.46	...	...	3.06	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
0.94	...	0.62	0.82	61	37	8	45	2	...	2	15	3	18	65	1.56	2.32	1.25	1.47	
0.93	...	0.62	0.81	61	37	8	45	2	...	2	15	3	18	65	1.55	2.27	1.24	1.47	

Table

## Statement of fatal and serious accidents in and about Mines

Province.	District and Mineral field.	Number of separate fatal accidents.	FATAL ACCI									
			Number of deaths.									Grand Total.
			Underground.			Open workings.			Surface.			
			Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	
Bihar and Orissa.	Hazari-bagh.	Bokaro	1	..	1	3	..	3	1	..	1	
		Giridih	5	..	5	..	..	..	1	..	1	6
		Jharia	2	1	1	1	..	1	..	..	..	2
		Karan-pura.	1	1	..	1	..	..	..	..	..	1
		Ramgarh	1	..	..	..	..	..	1	..	..	1
	Man-bhum.	Jharia	89	76	16	92	..	..	4	1	5	97
		Raniganj	6	4	1	5	..	..	1	..	1	6
	Sonthal Parganas.	Jainty	2	4	..	4	..	..	..	..	..	4
		Raniganj.	..	..	..	..	..	..	..	..	..	..
	Total		111	92	17	109	4	..	4	8	1	9

DIX II—contd.

No. 2—contd.

regulated by the Indian Mines Act, during the year 1927—contd.

DENTS.				SERIOUS ACCIDENTS.															
Death rate per 1,000 persons employed.				Number of separate serious accidents.	Number of persons seriously injured.									Grand Total.	Serious injury rate per 1,000 persons employed.				
Underground.	Open workings.	Surface.	Underground, Open workings and Surface.		Underground.			Open workings.			Surface.				Underground.	Open workings.	Surface.	Underground, Open workings and Surface.	
					Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.						
AI—contd.																			
1.43	0.25	0.44	0.34	16	...	...	...	8	1	9	5	2	7	16	...	0.76	3.07	1.08	
0.66	...	0.56	0.61	35	22	5	27	1	...	1	5	2	7	35	3.56	2.18	4.07	3.58	
2.70	55.82	...	3.04	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4.35	...	...	0.57	1	...	...	...	...	...	...	1	...	1	1	...	...	1.77	0.57	
...	...	200.00	24.39	2	...	...	...	2	...	2	...	...	...	2	...	55.55	...	48.78	
3.04	...	0.20	1.36	212	140	40	180	2	...	2	34	7	41	223	3.99	1.48	1.63	3.12	
0.83	...	0.39	0.68	10	6	1	7	...	...	...	3	...	3	10	1.17	...	1.16	1.13	
12.46	...	...	6.39	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	1	...	1	1	...	...	...	...	...	...	1	2.34	...	...	1.59	
1.79	0.27	0.27	1.12	277	168	47	215	18	1	14	48	11	59	286	3.58	0.94	1.79	2.68	



Table

## Statement of fatal and serious accidents in and about Mines

Province.	District and Mineral field.	Number of separate fatal accidents.	FATAL									Grand total.
			Number of deaths.									
			Underground.			Open workings.			Surface.			
			Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	
Central Provinces.	Chanda	...	...	...	...	...	...	...	...	...	...	CO
	Chhindwara	7	6	...	6	...	...	...	1	...	1	7
	Yeotmal	...	...	...	...	...	...	...	...	...	...	...
	Total	7	6	...	6	...	...	...	1	...	1	7
Punjab	Jhelum	2	2	...	2	...	...	...	...	...	...	2
	Mianwali	1	1	...	1	...	...	...	...	...	...	1
	Shahpur	1	1	...	1	...	...	...	...	...	...	1
	Total	4	4	...	4	...	...	...	...	...	...	4
	Grand Total (Coal), 1927.	166	181	25	156	5	1	6	16	3	19	181
Bihar and Orissa.	Singhbhum	3	...	...	...	1	...	1	2	...	2	3
												IRON
Burma	Mandslay	...	...	...	...	...	...	...	...	...	...	...
	Northern Shan States.	...	...	...	...	...	...	...	...	...	...	...
	Total	...	...	...	...	...	...	...	...	...	...	...
	Grand Total (Iron Ore), 1927.	3	...	...	...	1	...	1	2	...	2	3

DIX II—contd.

No. 2—contd.

regulated by the Indian Mines Act, during the year 1927—contd.

ACCIDENTS.				SERIOUS ACCIDENTS.														
Death rate per 1,000 persons employed.			Underground, Open workings and Surface.	Number of separate serious accidents.	Number of persons seriously injured.									Grand Total.	Serious injury rate per 1,000 persons employed.			
Underground.	Open workings.	Surface.			Underground.			Open workings.			Surface.				Underground.	Open workings.	Surface.	
					Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.					
...	...	...	...	4	3	...	3	...	...	...	1	1	4	1.83	...	1.91	1.88	
2.16	...	0.71	1.67	15	9	...	9	...	...	6	1	7	16	3.23	...	4.98	3.62	
...	...	...	...	1	1	...	1	...	...	...	...	...	1	5.92	...	...	4.50	
1.32	...	0.50	1.07	20	13	...	13	...	...	6	2	8	21	2.66	...	4.04	3.20	
3.75	...	...	2.19	8	6	...	6	...	...	2	...	2	8	11.24	...	5.35	8.76	
18.70	...	...	4.41	1	2	...	2	...	...	...	...	...	2	27.40	...	...	8.61	
31.26	...	...	8.33	4	2	...	2	...	...	2	...	2	4	62.50	...	51.28	33.23	
6.26	...	...	3.17	13	10	...	10	...	...	4	...	4	14	13.65	...	7.05	11.11	
1.60	0.36	0.37	1.10	438	273	55	330	15	1	16	92	19	111	457	3.39	0.96	2.17	2.77
<b>ORE.</b>				...	...	...	...	2	2	4	2	...	2	6	...	0.82	0.57	0.71
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	2	...	...	...	...	...	2	...	2	2	...	...	4.22	1.71	
...	...	...	...	2	...	...	...	...	...	2	...	2	2	...	...	3.59	1.60	
...	0.18	0.48	0.81	8	...	...	...	2	2	4	4	...	4	8	...	0.78	0.97	0.82



DIX II—contd.

No. 2—contd.

regulated by the Indian Mines Act, during the year 1927—contd.

ACCIDENTS.				SERIOUS ACCIDENTS.														
Death rate per 1,000 persons employed.				Number of separate serious accidents.	Number of persons seriously injured.									Grand Total.	Serious injury rate per 1,000 persons employed.			
Underground.	Open workings.	Surface.	Underground, Open workings and Surface.		Underground.			Open workings.			Surface.				Underground.	Open workings.	Surface.	Underground, Open workings and Surface.
					Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.					
NESE ORE.																		
...	2.49	...	2.33	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	7.84	...	7.83	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	23	1	...	1	13	5	18	3	1	4	23	21.74	5.49	5.49	5.68
...	1.02	...	0.81	23	1	...	1	13	5	18	3	1	4	23	21.74	4.59	4.09	4.65
...	0.43	1.48	0.54	8	3	...	3	3	1	4	1	...	1	8	6.06	0.43	0.74	0.72
...	1.05	...	0.33	6	...	...	...	5	...	5	1	...	1	6	...	1.75	1.33	1.66
...	2.02	...	1.05	7	4	2	6	3	...	3	...	...	9	36.53	6.06	...	9.47	
...	...	...	...	12	1	...	1	3	2	5	4	2	6	12	5.33	0.59	4.30	1.19
...	0.38	0.53	0.39	33	8	2	10	14	3	17	6	2	8	35	11.81	0.30	2.11	1.35
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	2	...	...	...	1	...	1	1	...	1	2	...	0.85	9.52	1.55
...	...	...	...	2	...	...	...	1	...	1	1	...	1	2	...	0.69	4.22	1.13
...	0.48	0.40	0.48	58	9	2	11	28	6	36	10	3	13	60	12.39	1.33	2.58	1.33

## Statement of fatal and serious accidents in and about Mines

Province.	District and Mineral field.	Number of separate fatal accidents.	FATAL										
			Number of deaths.									Grand Total.	
			Underground.			Open workings.			Surface.				
			Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.		
Burma	Northern States.	Shan	9	11	...	11	1	...	1	1	...	1	13
	Southern States.	Shan	1	1	...	1	...	...	...	...	...	...	1
	Grand Total (Lead Ore) 1927.		10	12	...	12	1	...	1	1	...	1	14
Bihar and Orissa.	Singbhum		...	...	...	...	...	...	...	...	...	...	GO
	Madras	Anantapur	1	1	...	1	...	...	...	...	...	...	1
	Grand Total (Gold) 1927.		1	1	...	1	...	...	...	...	...	...	1
Burma	Mergui		...	...	...	...	...	...	...	...	...	...	TIN
	Tavoy		3	...	...	...	1	...	1	3	...	3	4
	Grand Total (Tin and Wolfram)		3	...	...	...	1	...	1	3	...	3	4

**DIX II—contd.**

**No. 2—contd.**

regulated by the Indian Mines Act, during the year 1927—contd.

ACCIDENTS.				SERIOUS ACCIDENTS.															
Death rate per 1,000 persons employed.				Number of separate serious accidents.	Number of persons seriously injured.									Grand Total.	Serious injury rate per 1,000 persons employed.				
Underground.	Open workings.	Surface.	Underground, Open workings and Surface.		Underground.			Open workings.			Surface.				Underground.	Open workings.	Surface.	Underground and Open workings and Surface.	
					Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.						
<b>ORE.</b>																			
2.48	18.18	1.37	2.49	120	105	...	105	8	...	8	9	...	9	122	23.71	145.45	12.33	28.40	
3.48	...	...	2.51	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
2.55	17.54	1.19	2.50	120	105	...	105	8	...	8	9	...	9	122	23.37	140.35	10.73	21.74.	
<b>LD.</b>																			
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
4.22	...	...	2.43	9	3	...	3	...	...	...	...	...	...	3	12.66	...	...	7.30	
4.10	...	...	2.84	2	3	...	3	...	...	...	...	...	...	3	12.20	...	...	7.01	
<b>AND WOLFRAM.</b>																			
...	...	...	...	1	...	...	...	1	...	1	...	...	...	1	...	0.38	...	0.85	
...	0.55	4.83	1.19	9	4	...	4	3	...	3	5	...	5	12	4.33	1.65	8.05	2.57	
...	0.22	3.59	0.64	10	4	...	4	4	...	4	5	...	5	13	4.28	0.69	5.99	2.08	

Table

Statement of fatal and serious accidents in and about Mines

Province.	District and Mineral field.	Number of separate fatal accidents.	FATAL									Grand Total.
			Number of deaths.									
			Underground.			Open workings.			Surface.			
			Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	
			<b>CHROMITE</b>									
Baluchistan .	Quetta Fishin . . .	..	..	..	..	..	..	..	..	..	..	..
	Zhob . . .	..	..	..	..	..	..	..	..	..	..	..
Bihar and Orissa.	Singbhum . . .	1	..	..	..	1	..	1	..	..	..	1
	Grand Total (Chromite Ore) 1927.	1	..	..	..	1	..	1	..	..	..	1
Burma . . .	Katha . . .	..	..	..	..	..	..	..	..	..	..	GO
Bihar and Orissa.	Gaya . . .	..	..	..	..	..	..	..	..	..	..	MI
	Hazaribagh . . .	3	4	..	4	1	..	1	..	..	..	5
	Total . . .	3	4	..	4	1	..	1	..	..	..	5
	Grand Total (Mica) 1927.	3	4	..	4	1	..	1	..	..	..	5
Panjab	Jhelum . . .	1	..	..	..	1	..	1	..	..	..	1
	Shahpur . . .	..	..	..	..	..	..	..	..	..	..	..
	Total . . .	1	..	..	..	1	..	1	..	..	..	1
	Grand Total (Salt) 1927.	1	..	..	..	1	..	1	..	..	..	1

DIX II—contd.

No. 2—contd.

regulated by the Indian Mines Act, during the year 1927—contd.

ACCIDENTS.				SERIOUS ACCIDENTS.														
Death rate per 1,000 persons employed.				Number of separate serious accidents.	Number of persons seriously injured.									Grand total.	Serious injury rate per 1,000 persons employed.			
Underground.	Open workings.	Surface.	Under ground, Open workings and Surface.		Underground.			Open workings.			Surface.				Underground.	Open workings.	Surface.	Underground, Open workings and Surface.
					Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.					
<b>ORE.</b>																		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	2.72	...	2.43	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	1.99	...	1.61	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>MS</b>				1	...	...	...	1	...	1	...	...	1	...	4.61	...	2.46	...
<b>CA.</b>				2	1	...	1	...	...	1	...	1	2	1.19	...	6.18	1.65	...
0.48	0.52	...	0.44	12	7	2	9	6	...	6	...	...	15	1.09	3.11	...	1.31	...
0.42	0.56	...	0.37	14	8	2	10	6	...	6	1	...	17	1.05	2.25	0.60	1.27	...
0.81	0.25	...	0.25	14	8	2	10	6	...	6	1	...	17	0.77	1.48	0.85	0.86	...
<b>LT.</b>				6	2	2	4	...	...	2	...	2	6	4.56	...	6.51	5.03	...
...	125.00	...	0.84	1	1	...	1	...	...	...	...	1	8.85	...	...	7.09	...	
...	...	...	...	7	3	2	5	...	...	2	...	2	7	...	...	...	...	
...	125.00	...	0.68	7	3	2	5	...	...	2	...	2	7	4.70	...	5.05	4.77	...



## Statement of fatal and serious accidents in and about Mines

Province.	District and Mineral field.	Number of separate fatal accidents.	FATAL										
			Number of deaths.										Grand Total.
			Underground.			Open workings.			Surface.				
			Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.		
Bihar and Orissa.	Monghyr . . . . .	...	...	...	...	...	...	...	...	...	...	SLA	
	Singhbhum . . . . .	...	...	...	...	...	...	...	...	...	...	...	
	Total . . . . .	...	...	...	...	...	...	...	...	...	...	...	
Punjab . . . . .	Gurgaon . . . . .	...	...	...	...	...	...	...	...	...	...	...	
	Kangra . . . . .	...	...	...	...	...	...	...	...	...	...	...	
	Total . . . . .	...	...	...	...	...	...	...	...	...	...	...	
GRAND TOTAL (SLATS) 1927.		...	...	...	...	...	...	...	...	...	...	...	
Bihar and Orissa.	Sahabad . . . . .	1	...	...	...	...	...	...	1	1	1	LIME	
	Singhbhum . . . . .	...	...	...	...	...	...	...	...	...	...	...	
	Total . . . . .	1	...	...	...	...	...	...	1	1	1	...	
Burma . . . . .	Amherst . . . . .	1	...	...	...	7	...	7	...	...	...	7	
	Northern Shan States.	1	...	...	...	1	...	1	...	...	...	1	
	Total . . . . .	2	...	...	...	8	...	8	...	...	...	8	
Central Provinces.	Bilaspur . . . . .	...	...	...	...	...	...	...	...	...	...	...	
	Jubbulpore . . . . .	1	...	...	...	...	...	...	1	...	1	1	
	Rajpur . . . . .	...	...	...	...	...	...	...	...	...	...	...	
	Yeotmal . . . . .	...	...	...	...	...	...	...	...	...	...	...	
Total . . . . .	1	...	...	...	...	...	...	1	...	1	1		

DIX II—contd.

No. 2—contd.

regulated by the Indian Mines Act, during the year 1927—contd.

ACCIDENTS.				SERIOUS ACCIDENTS.														
Death rate per 1,000 persons employed.				Number of separate serious accidents.	Number of persons seriously injured.									Grand Total.	Serious injury rate per 1,000 persons employed.			
Underground.	Open workings.	Surface.	Underground, Open workings and Surface.		Underground.			Open workings.			Surface.				Underground.	Open workings.	Surface.	Underground, Open workings and Surface.
					Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.					
<b>TE.</b>				1				1		1				1		4.38		4.05
				1				1		1			1		4.18		3.95	
				1				1		1			1		1.68		1.56	
<b>STONE</b>								1		1			1		0.76		0.52	
		1.63	0.52	1				1		1			1		0.76		0.51	
	175.00		127.27															
	4.76		4.76	1				1		1			1		4.76		4.76	
	32.00		80.19	1				1		1			1		4.00		3.77	
		1.63	0.26	5				3	1	4	3		3	7	1.21	5.04	1.80	
		1.11	0.21	3				3	1	4	3		3	7	1.02	3.34	1.45	

Statement of fatal and serious accidents in and about Mines

Province.	District and Mineral field.	Number of separate fatal accidents.	FATAL									Grand Total.	
			Number of deaths.										
			Underground.			Open workings.			Surface.				
			Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.		
Punjab	Attock . . . .	...	...	...	...	...	...	...	...	...	...	...	
	Jhelum . . . .	1	...	...	...	4	...	4	...	...	...	...	4
	Rawalpindi . . . .	...	...	...	...	...	...	...	...	...	...	...	...
	Total . . . .	1	...	...	...	4	...	4	...	...	...	...	4
	Grand Total (Limestones), 1927.	5	...	...	...	12	...	12	1	1	2	14	
Bengal	Birbhum . . . .	1	...	...	...	...	...	...	1	...	1	1	
Bombay	Bombay Suburban	1	...	...	...	1	...	1	...	...	...	...	1
	Surat . . . .	1	...	...	...	1	...	1	...	...	...	...	1
	Total . . . .	2	...	...	...	2	...	2	...	...	...	...	2
Burma	Taungoo . . . .	1	...	...	...	1	...	1	...	...	...	...	1
	Thaton . . . .	3	...	...	...	4	...	4	...	...	...	...	4
	Total . . . .	4	...	...	...	5	...	5	...	...	...	...	5
	Grand Total (Igneous Rock), 1927.	7	...	...	...	7	...	7	1	...	1	8	

DIX II—contd.

No. 2—contd.

regulated by the Indian Mines Act, during the year 1927—contd.

ACCIDENTS.				SERIOUS ACCIDENTS.														
Death rate per 1,000 persons employed.			Underground, Open workings and Surface.	Number of separate serious accidents.	Number of persons seriously injured.									Grand Total.	Serious injury rate per 1,000 persons employed.			
Underground.	Open workings.	Surface.			Underground.			Open workings.			Surface.				Underground.	Open workings.	Surface.	
					Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.					
<b>STONE—contd.</b>																		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
...	7.07	...	5.80	1	...	...	...	1	...	1	...	...	...	1	...	1.77	...	1.45
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	2.85	...	1.91	1	...	...	...	1	...	1	...	...	...	1	...	0.71	...	0.48
...	1.74	0.89	1.53	8	...	...	...	6	1	7	3	...	3	10	...	1.03	1.34	1.09
<b>ROCK.</b>																		
...	...	1.14	0.32	2	...	...	...	1	...	1	1	...	1	3	...	2.38	1.14	1.64
...	1.52	...	1.11	3	...	...	...	...	...	3	...	3	3	3	...	...	12.24	3.32
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	3.08	...	2.17	3	...	...	...	...	...	3	...	3	3	3	...	...	11.58	3.26
...	6.26	...	6.80	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	2.43	...	2.17	5	...	...	...	6	...	6	...	...	...	6	...	3.64	...	3.25
...	2.71	...	2.42	5	...	...	...	6	...	6	...	...	...	6	...	3.26	...	2.90
...	1.73	0.84	1.14	11	...	...	...	7	...	7	4	...	4	11	...	1.78	1.35	1.57





Table

## Statement of fatal and serious accidents in and about Mines regulated

Province.	District and Mineral field.	FATAL											
		Number of separate fatal accidents.	Number of deaths.									Grand Total.	
			Underground.			Open workings.			Surface.				
			Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.		
Central Provinces.	Jubbulpore . . .	...	...	...	...	...	...	...	...	...	...	...	<b>FIRE</b>
	Grand Total (Fire-clay), 1927.	...	...	...	...	...	...	...	...	...	...	...	...
Bihar and Orissa.	Bhagalpur . . .	...	...	...	...	...	...	...	...	...	...	...	<b>CHINA</b>
	Singhbhum . . .	...	...	...	...	...	...	...	...	...	...	...	
	Total . . .	...	...	...	...	...	...	...	...	...	...	...	
Central Provinces.	Jubbulpore . . .	...	...	...	...	...	...	...	...	...	...	...	...
Delhi . . .	Delhi . . . . .	...	...	...	...	...	...	...	...	...	...	...	...
	Grand Total (China clay), 1927.	...	...	...	...	...	...	...	...	...	...	...	...
Grand Total (all minerals).		209	148	25	178	48	1	44	28	4	50	247	

## DIX II—contd.

No. 2—contd.

by the Indian Mines Act, during the year 1927—contd.

ACCIDENTS.				SERIOUS ACCIDENTS.																			
Death rate per 1,000 persons employed.				Number of separate serious accidents.	Number of persons seriously injured.									Grand Total.	Serious injury rate per 1,000 persons employed.								
Underground.	Open workings.	Surface.	Underground, Open workings and Surface.		Undergro und.			Open workings.			Surface.				Underground.	Open workings.	Surface.	Under ground, Open workings and Surface.					
					Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.										
CLAY.				1									1				1				14.08	1.86	
				1									1				1				4.46	1.02	
CLAY.																							
				1									1				1				4.20	1.40	
				1									1				1				8.37	1.27	
				1									1				1				8.55	1.10	
1.46	0.57	0.41	0.92	680	407	61	468	78	12	90	138	22	155	713	8.95	1.16	2.12	2.65					



## APPENDIX II—concl'd.

Table No. 3.

Statement of fatal accidents in Mines regulated by the Indian Mines Act, during the year 1927, classified according to cause of accident.

Mineral worked.	Number of separate fatal accidents.	Number of persons killed.										Death rate per 1,000 persons employed.				
		Explosions of fire-damp.	Falls of roof.	Falls of side.	In shafts.	Suffocation by gases.	Explosives.	Haulage.	Miscellaneous underground.	Surface.	Electricity.	Total deaths.	Underground.	Open workings.	On surface.	Underground workings and Surface.
Coal . . . . .	166	1	61	39	8	1	13	24	15	17	2	181	1.60	0.36	0.37	1.10
Iron Ore . . . . .	3	...	...	...	...	...	1	...	...	2	...	3	...	0.18	0.48	0.31
Manganese Ore . . . . .	9	...	...	9	...	...	3	...	...	3	...	15	...	0.48	0.40	0.46
Lead Ore . . . . .	10	...	2	2	2	5	...	...	3	1	...	14	3.55	17.54	1.19	2.44
Tin and Wolfram Ore.	3	...	...	...	...	...	...	1	3	...	4	...	0.92	3.59	0.64	
Mica . . . . .	3	...	...	1	...	3	1	...	...	...	...	5	0.81	0.25	...	0.25
Salt . . . . .	1	...	...	1	...	...	...	...	...	...	1	...	125.00	...	...	0.68
Limestone . . . . .	5	...	...	4	...	...	7	...	1	2	...	14	...	1.74	0.89	1.53
Igneous Rock . . . . .	7	...	...	2	...	...	2	...	3	1	...	8	...	1.73	0.34	1.14
Gold . . . . .	1	...	...	1	...	...	...	...	...	...	1	4.10	...	...	...	2.34
Chromite Ore . . . . .	1	...	...	...	...	...	...	1	...	...	1	...	1.99	...	...	1.61
Total 1927 . . . . .	209	1	63	59	10	9	27	24	23	29	2	247	1.46	0.57	0.41	0.93
Total of preceding year.	198	5	53	69	17	2	17	26	12	25	1	227	1.38	0.49	0.41	0.87
Difference . . . . .	+11	-4	+10	-10	-7	+7	+10	-2	+11	+4	+1	+20	+0.08	+0.08	...	+0.05

## APPENDIX III.

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1927.

Province.	District.	Number of prosecutions.	Number of persons prosecuted.	Number of persons convicted.	Number of regulations and rules and Sections of the Act contravened.	REMARKS.
Assam	Lakhimpur	1	1	1	Regulation 144 and Regulation 70. Sub-Section 5 of the Indian Coal Mines Regulations, 1926.	
	Burdwan	1	2	1	Regulation 53 of the Indian Coal Mines Regulations, 1926.	One of the accused was acquitted.
	Do.	1	2	2	Regulations 24 (3), 67 and 137 Indian Coal Mines Regulations, 1926.	
	Do.	1	4	4	Regulations 38, 67 and 137 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	3	3	Regulation 53 (1) and Rule 18 of the Government of Bengal Notification No. 4768-Com., dated the 29th August 1924.	
Bengal	Do.	2	2	...	Regulation 17 of the Indian Coal Mines Regulations, 1926.	One of the accused could not be traced and the other could not be identified.
	Do.	1	2	1	Rule 18 of the Bengal Government Notification No. 4768-Com., dated the 29th August 1924.	One of the accused was acquitted.
	Do.	1	6	6	Rule 36 of the Government of India Notification No. M.-1035(1), dated the 7th September 1926.	
	Do.	1	5	5	Section 39 of the Indian Mines Act, 1923.	
	Do.	1	1	1	Regulation 3 (3) of the Indian Coal Mines Regulations, 1926.	
	Do.	1	2	...	Section 40(1) of the Indian Mines Act read with Special Rules 13 and 15 and Special Rules 68 and 69 read with Special Rule 28.	Both the accused were acquitted.

APPENDIX III—*contd.*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1927—*contd.*

Province.	District.	Number of prosecutions.	Number of persons prosecuted.	Number of persons convicted.	Number of regulations and rules and Sections of the Act contravened.	REMARKS.
Bihar and Orissa.	Hazaribagh.	6	8	—	Regulations 3 (1) and (2) of the Indian Metalliferous Mines Regulations, 1926.	Proceedings against five of the accused were dropped on their submitting satisfactory explanations and against the accused in the other three cases as he died.
	Do.	1	1	1	Regulations 43, 71 and 91 of the Indian Metalliferous Mines Regulations, 1926.	
	Manbhum.	1	1	1	Regulations 82 and 84 of the Indian Coal Mines Regulations, 1926.	
	Do.	3	4	2	Section 15 of the Indian Mines Act, 1923 read with Regulation 23 (c) of the Indian Coal Mines Regulations, 1926.	One of the accused was acquitted and the case against another was withdrawn as he died.
	Do.	1	1	1	Rule 16 of the Bihar and Orissa Government Notification No. 3908-VII-M. 2, dated the 8th September 1924.	
	Do.	1	2	1	Regulations 140, 137 and 135 of the Indian Coal Mines Regulations, 1926 read with Sections 16, 39 and 40 of the Indian Mines Act, 1923.	Case against one of the accused was withdrawn.
	Do.	2	2	2	Regulations 102, 103 and 105 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	1	1	Regulation 88 of the Indian Coal Mines Regulation, 1926.	
	Do.	2	8	8	Regulation 98 of the Indian Coal Mines Regulations, 1926.	

APPENDIX III—*contd.*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1927—*contd.*

Province.	District.	Number of prosecutions.	Number of persons prosecuted.	Number of persons convicted.	Number of regulations and rules and Sections of the Act contravened.	REMARKS.
Bihar & Orissa — <i>contd.</i>	Manbhum . . .	1	1	1	Regulation 110 of the Indian Coal Mines Regulations, 1926.	
	Do. . . . .	2	2	1	Regulation 3 (3) of the Indian Coal Mines Regulations, 1926 read with Section 33 of the Indian Mines Act, 1923.	Case against one of the accused was withdrawn.
	Do. . . . .	1	2	2	Regulations 82 and 188 of the Indian Coal Mines Regulations, 1926.	
	Do. . . . .	1	2	1	Section 15 of the Indian Mines Act, 1923 and Regulation 121 of the Indian Coal Mines Regulations, 1926.	One of the accused was acquitted.
	Do. . . . .	1	3	3	Regulations 67, 140(1) and 146 of the Indian Coal Mines Regulations, 1926, and Special Rule 4L.	
	Do. . . . .	1	1	...	Regulations 82 and 148 of the Indian Coal Mines Regulations, 1926.	Case dropped as accused could not be traced.
	Do. . . . .	1	4	4	Regulation 17 of the Indian Coal Mines Regulations, 1926.	
	Do. . . . .	1	1	1	Section 39 of the Indian Mines Act, 1923.	
	Do. . . . .	1	1	1	Regulation 70 of the Indian Coal Mines Regulations, 1926.	
	Do. . . . .	1	2	1	Special Rule 78 and Regulations 142, 146 and 147 of the Indian Coal Mines Regulations, 1926 read with Section 29 of the Indian Mines Act, 1923.	One of the accused could not be traced.
	Mouhhyr. . . .	3	3	1	Regulations 3 (1) and (2) of the Indian Metalliferous Mines Regulations, 1926.	One of the accused was acquitted and the case against another was dropped as he could not be traced.

APPENDIX III—*contd.*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1927—*contd.*

Province.	District.	Number of prosecutions.	Number of persons prosecuted.	Number of persons convicted.	Number of regulations and rules and Sections of the Act contravened.	REMARKS.
Bihar and Orissa— <i>concd.</i>	Sonthal Parganas	1	3	2	Regulation 3 (1) of the Indian Coal Mines Regulations, 1926.	One of the accused was acquitted.
	Do.	1	4	4	Regulations 24 (3) and 67 of the Indian Coal Mines Regulations, 1926.	
Burma	Tavoy	1	1	1	Regulation 82 of the Indian Metalliferous Mines Regulations, 1926.	
	Balaghat	1	2	2	Regulation 82 of the Indian Metalliferous Mines Regulations, 1926.	
	Do.	1	1	1	Regulation 86 of the Indian Metalliferous Mines Regulations, 1926.	
	Bhandara	1	1	...	Regulation 3 (1) of the Indian Metalliferous Mines Regulations, 1926.	Case was withdrawn.
Central Provinces.	Chhindwara	1	1	1	Section 89 of the Act and Regulation 92 of the Indian Coal Mines Regulations, 1926.	
	Do.	1	3	3	Regulation 137 of the Indian Coal Mines Regulations 1926.	
	Do.	1	2	2	Rule 38 of the Central Provinces Government Notification No. 2226-1820-XIII, dated the 24th September 1924.	
	Do.	1	1	1	Regulation 23 of the Indian Coal Mines Regulations, 1926.	

APPENDIX III—*contd.*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code during the year 1927—*concl'd.*

Province.	District.	Number of prosecutions.	Number of persons prosecuted.	Number of persons convicted.	Number of regulations and rules and Sections of the Act contravened.	REMARKS.
Central Provinces— <i>cont'd.</i>	Chhindwara	1	2	1	Section 28 of the Indian Mines Act, 1923.	One of the accused was acquitted.
	Nagpur	1	2	2	Regulations 89 and 91 of the Indian Metalliferous Mines Regulations, 1926.	
Delhi	Delhi	1	1	...	Regulation 3 (2) of the Indian Metalliferous Mines Regulations, 1926.	The case was withdrawn.
Madras	Nellore	1	2	1	Regulation 82 of the Indian Metalliferous Mines Regulations, 1926.	One of the accused was acquitted.
Rajputana	Beawar	1	1	1	Regulation 3 (1) of the Indian Metalliferous Mines Regulations, 1926.	
United Provinces.	Allahabad	1	1	1	Regulation 3(1) of the Indian Metalliferous Mines Regulations, 1926.	
	Agra	1	1	1	Section 15 of the Indian Mines Act, 1923 read with Regulation 23 of the Indian Coal Mines Regulations, 1926.	
	Total	61	109	81		

## APPENDIX IV.

## Miscellaneous.

## Statement No. 1.

## List of Inspection Circles.

No. 1 Circle.	No. 2 Circle.
1. All mines in Baluchistan.	1. All mines in Assam.
2. All mines in Bihar and Orissa except mines in the district of the Santal Parganas and such mines in the district of Manbhum as lie east of a line drawn from mile 175 on the Bengal Nagpur Railway to mile 169 on the Grand Trunk Road and continued in a straight line across the district.	2. All mines in Bengal.
3. All mines in the North-West Frontier Province.	3. Such mines in Bihar and Orissa as lie in the district of the Santal Parganas and in the district of Manbhum east of a line drawn from mile 175 on the Bengal Nagpur Railway to mile 169 on the Grand Trunk Road and continued in a straight line across the district.
4. All mines in the Punjab.	4. All mines in Bombay.
5. All mines in Rajputana.	5. All mines in Burma.
6. All mines in the United Provinces.	6. All mines in the Central Provinces.
	7. All mines in Madras.

## Statement No. 2.

Names of persons to whom first and second class certificates of competency to manage a coal mine were granted during the year 1927.

Certificates granted to holders of English certificates of competency.

## (a) FIRST CLASS.

Name.	No. of Indian certificate.	Date of Indian certificate.	No. of English certificate.	Date of English certificate.
Maltby, Albert George Geoffrey .	331	21st July 1927	999	12th February 1921.
Brook, John . . . . .	332	Ditto	906	Do.
Brass, Reginald . . . . .	333	Ditto	1431	4th August 1923.
Tuck, Arthur . . . . .	334	Ditto	1950	4th February 1926.
Curtain, Wilfred Victor James .	335	15th September 1927.	1735	5th February, 1925.
Heron, Daniel . . . . .	336	19th December 1927	2150	5th August 1927.

## (b) SECOND CLASS.

Nil.

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 2—*contd.*

Names of persons to whom first and second class certificates of competency to manage a coal mine were granted during the year 1927—*contd.*

## Indian Certificates.

## (a) FIRST CLASS.

Name.	No. of certificate.	Date of certificate.	REMARKS.
Sadhu, (Golak Behari)	196	18th July, 1927.	
Mukherjee, Gopala	197	Ditto.	
Das, Brajendranath	198	Ditto.	
Bose, Santosh Kumar	199	Ditto.	

## (b) SECOND CLASS.

Name.	No. of certificate.	Date of certificate.	REMARKS.
Powell, J. A.	404	20th July 1927.	
Ghosh, Sunil Krishna	405	Do.	
Mehta, Trambaklal Chaturbhuj	406	Do.	
Hindley, C. W. G.	407	Do.	
Chakravarty, Gokul Chandra.	408	Do.	
Majumdar, Indu Bhusan	409	Do.	



APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 2—*contd.*

Names of persons to whom first and second class certificates of competency to manage a coal mine were granted during the year 1927—*concl'd.*

Indian Certificates—*contd.*

(b) SECOND CLASS—*contd.*

Name.	No. of certificate.	Date of certificate.	REMARKS.
Sarkar, Bibhuti Bhushan	410	20th July 1927.	
Banerjee, Indu Bhushan	411	Do.	
Chaudhuri, Parash Nath	412	Do.	
Roy, Suresh Chandra	413	Do.	
Bagchi, Subodh Krishna	414	Do.	
Malitte, F. O. A.	415	Do.	
Mitter, Arun Kumar	416	Do.	
Paul, Jagannath	417	Do.	
Nag, Khagendra Nath	418	Do.	
Roy, Anukul Chand.	419	Do.	
Johnston, James	420	Do.	
Niven, David Coates	421	Do.	
Guha-Maulik, Sudhir Chandra	422	Do.	
Ganguly, Ajit Kumar	423	Do.	
Banerjee, Satindra Chandra	424	Do.	
Chanda, Boney Krishna	425	Do.	
Rakshit, Sukumar	426	Do.	
Moore, Thomas	427	Do.	
Rana, Digambar	428	Do.	
Rahman, Mohammad Khallur	429	Do.	
Datta, Basanta Kumar	430	Do.	
Sanyal, Manindra Lal	431	Do.	
Mukherjee, Anath Bandhu	432	Do.	

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 2—*contd.*

Names of persons to whom colliery surveyors' certificates of competency were granted during the year 1927.

Name.	No. of certificates.	Date of certificate.	REMARKS.
Banerjee, Mrityunjoy	1	4th February 1928.	
Roy, Bibhuti Bhusan	2	Do.	
Sen, Parawa Nath	3	Do.	
Biawas, Kali Pada	4	Do.	
De, Abinas Chandra	5	Do.	
Roy, Shakti Pada	6	Do.	
Ganguly, Bakhal Chandra	7	Do.	
Sanyal, Manindra Lal	8	Do.	
Mukherjee, Bhupendra Nath	9	Do.	
Sen Gupta, Dinesh Chandra	10	Do.	
Ganguly, Sib Nath	11	Do.	
Chakravarty, Sasanka Mohan	12	Do.	
Ghosh, Sakti Kinkoor	13	Do.	
Baksi, Panchanan	14	Do.	
Gupta, Hriday Hari	15	Do.	
Mitra, Panch Kari	16	Do.	
Lahiri, Pankaj Nath	17	Do.	
Bhattacharjee, Nalinaksha	18	Do.	
Ganguly, Ajit Kumar	19	Do.	
Shome, Makhan Lal	20	Do.	
Sen, Shuresh Chandra	21	Do.	
Mahta, Trambakial Chaturbhuj	22	Do.	
Mitra, Chand Prasad	23	Do.	
Dandekar, Parushottam Bhaskar	24	Do.	
Bagchi, Nandlal	25	Do.	
Datta, Basanta Kumar	26	Do.	

**APPENDIX IV.**  
**Miscellaneous.**  
**Statement No. 3.**  
**GOVERNMENT OF INDIA.**  
**DEPARTMENT OF INDUSTRIES AND LABOUR.**  
**NOTIFICATION.**

*New Delhi, the 16th December 1927.*

No. M-1635.—In pursuance of Clause (1) of Regulation 15 of the Indian Metalliferous Mines Regulations, 1926, the Government General in Council is pleased to direct that the provisions of Chapter II of the said Regulations in respect of plans shall apply to the Mica Mines specified in the annexed schedule.

*Schedule.*

No.	Province.	District.	Name of mine.	Name of owner.
1.	Madras.	Nilgiris.	Sankara	A. H. Gaston.
2.	"	Nellore.	Patragunta	B. V. Krishniah.
3.	"	"	Kubera	V. Rajagopal Rao.
4.	"	"	Mohana	Edgar Denham.
5.	"	"	Goury and Sankara	B. S. Mining Co.
6.	"	"	Natraja	I. Pattabhirami Reddi.
7.	"	"	Pallimitta	Krishna Mining Co.
8.	"	"	Shah	Krishna Mining Co.
9.	"	"	Lakshmi-Narayan	B. P. Reddi and R. L. Reddi.
10.	"	"	Chukka	I. P. Reddi.
11.	"	"	Palamani	Tellabadu Co., Ltd.
12.	"	"	Tellabadu	Krishna Mining Co.
13.	"	"	Nandalagunta	Krishna Mining Co.
14.	"	"	Kasiawanath	B. Bangariah.
15.	"	"	Kajjapurama	T. V. Subbiah Naidu.
16.	"	"	Krishnavilasam	Md. Mukdum Mohiuddin Sahib.
17.	"	"	Sitarama	Madras Mica Co.
18.	"	"	Kalichedu	Kalichedu Mining Co.
19.	"	"	Bashire	Madras Mica Co.
20.	"	"	Radha-Krishna	B. P. Reddi and R. L. Reddi.
21.	"	"	Umamaheswara	K. Padma Naidu and others.
22.	"	"	Radha-Krishna	P. Rangappa Naidu and others.
23.	"	"	" P "	Tellabadu Co., Ltd.
24.	"	"	Bhavaniankar	V. Subba Reddi.

APPENDIX IV—*contd.*  
 Miscellaneous—*contd.*  
 Statement No. 3—*contd.*  
 GOVERNMENT OF INDIA.

## DEPARTMENT OF INDUSTRIES AND LABOUR.

## NOTIFICATION.

New Delhi the 15th December 1927.

No.	Province.	District.	Name of mine.	Name of owner.
1	Bihar and Orissa.	Hazaribagh.	Bullock	F. F. Chrestien & Co.
2	"	"	Kendua	"
3	"	"	Hibru	"
4	"	"	Lumaria	"
5	"	"	Bura (74)	"
6	"	"	Buris (Kaliktambi)	"
7	"	"	Harraiya	"
8	"	"	Gamaria	"
9	"	"	Bura Murghe	"
10	"	"	Buris (Domohench)	"
11	"	"	Charaki No. 1	"
12	"	"	Charaki No. 2	"
13	"	"	Bindla	"
14	"	"	Pathaiya	"
15	"	"	Tandaiya	"
16	"	"	Bamsingha	"
17	"	"	Ghutia	"
18	"	"	Lady Bangi	"
19	"	"	Lambapahar	"
20	"	"	Surangi (Charaki)	"
21	"	"	Reha	"
22	"	"	Singho Pahari	"
23	"	"	Surangi (Dhab)	"
24	"	"	Tharwa & Lagunwa	Tata Sons & Co.
25	"	"	Tetturia	"
26	"	"	Kendua	"

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 3—*contd.*

• GOVERNMENT OF INDIA.

## DEPARTMENT OF INDUSTRIES AND LABOUR.

## NOTIFICATION.

*New Delhi, the 15th December 1927.*

No.	District.	Province.	Name of mine.	Name of owner.
27	Bihar and Orissa.	Hazaribagh.	Murulia . . . . .	Tata Sons & Co.
28	"	"	Thani . . . . .	"
29	"	"	Shyam . . . . .	"
30	"	"	Kari . . . . .	"
31	"	"	Buria . . . . .	"
32	"	"	Kaira . . . . .	John Rodger & Co.
33	"	"	Dhobiamaran . . . . .	Sahana Opusina.
34	"	"	" . . . . .	J. S. Mull & Co.
35	"	"	Deora . . . . .	"
36	"	"	Sugi . . . . .	"
37	"	"	Bangathoa . . . . .	I. C. Bhattacharjee.
38	"	"	Bharkighat . . . . .	A. C. Bose & Co.
39	"	"	Nowoca . . . . .	Bihar Mica Concern.
40	"	"	Kahuria . . . . .	Chota Nagpur Mica Syndicate.
41	"	"	Bhuti . . . . .	"
42	"	"	Kunjia . . . . .	"
43	"	"	Lomchanchi . . . . .	"
44	"	"	Buria (Tharragatti) . . . . .	Brindaban Industrial Syndicate.
45	"	"	No. 10 . . . . .	"
46	"	"	Jolamaron . . . . .	"
47	"	"	Baroria . . . . .	"
48	"	"	Sarola . . . . .	Kodarama Bissenpur Mica Syndicate.
49	"	"	Charki . . . . .	"

APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 3—*concl'd.*

GOVERNMENT OF INDIA.

## DEPARTMENT OF INDUSTRIES AND LABOUR.

## NOTIFICATION.

No.	Province.	District.	Name of mine.	Name of owner.
50	Bihar and Orissa.	Hazaribagh.	Monharis . . . . .	Hazaribagh Mica Mining Co.
51	"	"	Segunia . . . . .	"
52	"	"	Sugi . . . . .	Prayag Singh.
53	"	"	Fathlaiya . . . . .	Tafani Singh.
54	"	"	" . . . . .	Ganga Singh.
55	"	"	Hosonia . . . . .	Raghubir Roy.
56	"	"	Chaprascoc . . . . .	Tekait Krishna Pd. Singh.
57	"	Gaya	Bhanekhap . . . . .	Ganpat Roy & Co.
58	"	"	Annapurna . . . . .	Srikanta Lal
59	"	"	Be kacho . . . . .	K. K. Mittor & Co.
60	"	"	Lekhaya . . . . .	"
61	"	"	Bandaloria . . . . .	"
62	"	"	Gladhar . . . . .	"
63	"	Monghyr	Ganda No. J . . . . .	Mohanta Dwarikianaud Swami

A. G. CLOW,

Offg. Secy. to the Government of India.

APPENDIX IV—*contd.*Miscellaneous—*contd.*

## Statement No. 4.

GOVERNMENT OF INDIA.

## DEPARTMENT OF INDUSTRIES AND LABOUR.

## NOTIFICATION.

*New Delhi, the 23rd November 1927.*

No. M.-1051.—In exercise of the powers conferred by sub-section (1) of section 48 of the Indian Mines Act, 1923 (IV of 1923), the Governor General in Council is pleased to direct that the following amendments shall be made in the Schedule to the notification of the Government of India in the Department of Industries and Labour, No. M.-1051, dated the 23rd December 1926, namely:—

In the said Schedule:—

(a) In entry 1 in the first column—

(i) after the word "fire-clay" the word "ocbre" shall be inserted, and:

(ii) after clause (b) of the second proviso, the following clause shall be inserted, namely:—

"(c) The Danapahari Fire-clay mine situate in Bonjamuri village in the Asansol sub-division of the Burdwan district."

(b) After entry 3, the following entry shall be inserted, namely:—

"3A. Iron-ore mines worked without mechanical power, the whole of the ore from which is supplied locally to village smelters and blacksmiths."

AR

(c) To entry 6, the following sub-entry shall be added, namely:—

"(vi) Open excavations for coal in the Rajmahal coalfields in the district of the Santhal Parganas, provided that not more than 20 persons are employed in or about the mine at any one time."

All

A. G. CLOW,

*Offg. Secy. to the Government of India.*

APPENDIX IV—*contd.*Miscellaneous—*contd.*

## Statement No. 5.

GOVERNMENT OF INDIA.

## DEPARTMENT OF INDUSTRIES AND LABOUR.

## NOTIFICATION.

*New Delhi, the 26th January 1927.*

No. M-987.—For the purposes of regulations 34, 35 and 39 of the Indian Coal Mines Regulations, 1926, the Governor General in Council has approved of the following institutions in respect of the degrees, diplomas or certificates specified against them if granted after the dates similarly specified.

2. The notifications of the Government of India in the Department of Commerce and Industry, No. 5808-160, dated the 25th July 1906, No. 1715-2, dated the 22nd February 1907, No. 9082-225, dated the 6th December 1909, No. 6690-148, dated the 24th September 1910, No. 1329-26, dated the 22nd February 1913, No. 2455-C, dated the 13th March 1915, No. 537-27, dated the 19th February 1916 and No. 7845, dated the 10th August 1918, and in the Department of Industries No. M-987, dated the 26th February 1923 are hereby cancelled.

Name of Institution.	Degree, Diploma or Certificate.	Date.
<b>INDIA.</b>		
Benares Hindu University . . . . .	Degree of Bachelor of Science in Mining.	1st January 1927.
Bengal Engineering College, Sibpur . . . . .	Diploma in Mining . . . . .	22nd February 1907.
Calcutta University . . . . .	Degree of Bachelor of Engineering in the Branch of Mining Engineering.	24th September 1910.
Indian School of Mines, Dhanbad . . . . .	Certificate in Coal Mining and Diploma of Associateship in Mining Engineering.	1st January 1927.
<b>UNITED KINGDOM.</b>		
Armstrong College, New-castle-on-Tyne . . . . .	Diploma in Mining . . . . .	29th June 1904.
Birmingham University . . . . .	Degree of B. Sc. in Mining and Diploma in Mining.	11th June 1904.
Cambridge and Birmingham Universities . . . . .	Joint Coal Mining Diploma . . . . .	30th June 1935.
Durham University . . . . .	Degree of B. Sc. in Mining . . . . .	21st December 1908.
Ditto . . . . .	Honours Degree of B. Sc. in Mining . . . . .	13th March 1919.
Edinburgh University . . . . .	Degrees of B. Sc. and D. Sc. in Mining and Metallurgy.	7th September 1921.
Glasgow Royal Technical College . . . . .	Diploma in Mining . . . . .	28th June 1904.
Glasgow University . . . . .	Degree and Diploma in Mining . . . . .	28th September 1904.
Heriot Watt College, Edinburgh . . . . .	Certificate in Mining Engineering . . . . .	16th January 1908.
Ditto, ditto . . . . .	Diploma in Mining Engineering . . . . .	7th March 1911.
Leeds University . . . . .	Degree of B. Sc. in Mining and Diploma in Mining . . . . .	21st November 1904.



APPENDIX IV—*contd.*Miscellaneous—*contd.*Statement No. 5—*contd.*

Name of Institution.	Degree, Diploma or Certificate.	Date.
<b>UNITED KINGDOM—<i>contd.</i></b>		
London University	B. Sc. Degree in Mining for Internal Students, subject to the Degree being endorsed by the University with a certificate of four months' practical experience in a mine.	9th June 1905.
Ditto	Degree of B. Sc. in Mining for External Students.	7th August 1906.
Manchester, Victoria University	Degree and Certificate in Mining	14th February 1906.
Nottingham University College	Diploma of Mining Engineering	28th March 1906.
Oxford and Birmingham Universities.	Diploma in Coal Mining which is granted by the two Universities jointly.	24th May 1921.
Royal School of Mines	Associatehip in Mining.	24th March 1904.
Sheffield University	Diploma in Mining	6th June 1906.
Ditto	Degree of Bachelor of Engineering (Mining).	30th June 1906.
University College of South Wales and Monmouthshire and the South Wales and Monmouthshire School of Mines.	Diploma which is granted by the two Institutions (jointly).	18th March 1914.
Wales, University of	Degree of B. Sc. in Mining Engineering.	14th March 1914.
Wigan Mining and Technical College	Diploma in Mining	26th August 1904.
<b>FOREIGN COUNTRIES.</b>		
California University, United States of America.	Degree of Mining Engineer	19th February 1916.
Carnegie Institute of Technology, Pittsburgh, Pa., United States of America.	Degree of Bachelor of Science in Mining Engineering.	26th February 1923.
Columbia University, New York, United States of America.	Degree of Engineer of Mines	13th March 1915.
Harvard University, Cambridge, Massachusetts, United States of America.	Diploma in Mining Engineering	22nd February 1913.
Leland Stanford Junior University, California.	Degree of Bachelor of Arts in Geology and Mining.	10th August 1918.
Pittsburgh University, United States of America.	Degree of Engineer of Mines	19th February 1916.

W. A. C. McWATTERS,  
Secretary to the Government of India.

APPENDIX IV—*contd.*Miscellaneous—*contd.*

## Statement No. 6.

GOVERNMENT OF INDIA.

DEPARTMENT OF INDUSTRIES AND LABOUR.

## NOTIFICATION.

*New Delhi, the 2nd March 1927.*

No. M-987.—For the purposes of regulation 33 of the Indian Coal Mines Regulations, 1926, the Government of India have approved the following institutions in respect of First-Aid Certificates granted by them:—

1. St. Andrew's Ambulance Association, Glasgow.
2. United States of America Bureau of Mines, Washington.

A. C. McWATTERS,

*Secretary to the Government of India.*